

LIBRARY
BUREAU OF THE CENSUS

census

Ref

HD

9724

.452x

19876

nos. 33A-

39D



NONFERROUS METAL MILLS AND MISCELLANEOUS PRIMARY METAL PRODUCTS

Industries 3351, 3353, 3354, 3355, 3356, 3357, 3398, and 3399

INTRODUCTION

This report presents preliminary statistics from the 1987 Census of Manufactures for those establishments classified in the industries listed above. These data will be superseded by a more comprehensive final paperbound report. The method of data collection and use of administrative data are discussed in detail in the appendix.

All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The definitions of these industries are the same as those used in the 1987 Standard Industrial Classification (SIC) Manual.¹

INDUSTRY 3351, COPPER ROLLING AND DRAWING

In the 1987 Census of Manufactures, Industry 3351, Copper Rolling and Drawing, had employment of 22.4 thousand. The employment figure was 4 percent below the 23.3 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$5.0 billion.

The cost of materials and services used by establishments in this industry amounted to \$3.5 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3353, ALUMINUM SHEET, PLATE, AND FOIL

In the 1987 Census of Manufactures, Industry 3353, Aluminum Sheet, Plate, and Foil, had employment of 26.0 thousand. The employment figure was 6 percent below the 27.7 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$9.5 billion.

The cost of materials and services used by establishments in this industry amounted to \$7.8 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS

In the 1987 Census of Manufactures, Industry 3354, Aluminum Extruded Products, had employment of 29.9 thousand. The employment figure was 18 percent above the 25.4 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$4.2 billion.

The cost of materials and services used by establishments in this industry amounted to \$2.9 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3355, ALUMINUM ROLLING AND DRAWING, N.E.C.

In the 1987 Census of Manufactures, Industry 3355, Aluminum Rolling and Drawing, N.E.C., had employment of 1.1 thousand. The employment figure was 58 percent below the 2.6 thousand reported in 1982. Compared with 1986, employment in 1987 decreased 35 percent. The

¹Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

Address inquiries to Bureau of the Census, Industry Division, Washington, DC 20233, or call Jessica Young (301) 763-7304.



1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was \$562.9 million.

The cost of materials and services used by establishments in this industry amounted to \$457.9 million in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3356, NONFERROUS ROLLING AND DRAWING, N.E.C.

In the 1987 Census of Manufactures, Industry 3356, Nonferrous Rolling and Drawing, N.E.C., had employment of 17.9 thousand. The employment figure was 10 percent below the 20.0 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$3.0 billion.

The cost of materials and services used by establishments in this industry amounted to \$1.8 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3357, NONFERROUS WIREDRAWING AND INSULATING

In the 1987 Census of Manufactures, Industry 3357, Nonferrous Wiredrawing and Insulating, had employment of 64.6 thousand. The employment figure was 4 percent below the 67.6 thousand reported in 1982. Compared with 1986, employment in 1987 increased 9 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was \$10.7 billion.

The cost of materials and services used by establishments in this industry amounted to \$6.6 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3398, METAL HEAT TREATING

In the 1987 Census of Manufactures, Industry 3398, Metal Heat Treating, had employment of 17.7 thousand. The employment figure was the same as reported in 1982.

The total value of shipments for establishments classified in this industry was \$1.3 billion.

The cost of materials and services used by establishments in this industry amounted to \$318.5 million in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3399, PRIMARY METAL PRODUCTS, N.E.C.

In the 1987 Census of Manufactures, Industry 3399, Primary Metal Products, N.E.C., had employment of 14.3 thousand. The employment figure was 74 percent above the 8.2 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$1.6 billion.

The cost of materials and services used by establishments in this industry amounted to \$876.3 million in 1987. Data on specific materials consumed appear in table 3.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in the tables in this publication:

| | |
|--------|--|
| - | Represents zero. |
| (D) | Withheld to avoid disclosing data for individual companies; data are included in higher level totals. |
| (NA) | Not available. |
| (NC) | Not comparable. |
| (S) | Withheld because estimate did not meet publication standards on the basis of either the response rate or a consistency review. |
| (X) | Not applicable. |
| (Z) | Less than half the unit shown. |
| do | Ditto. |
| n.e.c. | Not elsewhere classified. |
| n.s.k. | Not specified by kind. |
| pt. | Part. |
| r | Revised. |
| SIC | Standard Industrial Classification. |

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

CONTACTS FOR DATA USERS

| Subject Area | Contact | Phone |
|---------------------------------|------------------------------------|----------------|
| Census/ASM | | |
| Durables | Kenneth Hansen | (301) 763-7304 |
| Nondurables | Michael Zampogna | (301) 763-2510 |
| Current Industrial Reports | | |
| Durables | Malcolm Bernhardt | (301) 763-2518 |
| Nondurables | Thomas Flood | (301) 763-5911 |
| Import/Export Publications | Foreign Trade Division | (301) 763-5140 |
| Industry Analysis and Forecasts | International Trade Administration | (202) 377-4356 |

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

| Year¹ | Companies² (no.) | All establishments³ | | All employees | | Production workers | | | Value added by manufac- ture⁴ (million dollars) | Cost of materials (million dollars) | Value of shipments (million dollars) | New capital expendi- tures (million dollars) | End-of- year inventories⁴ (million dollars) | Ratios | |
|---|---------------------|---------------------|---|-------------------|---------------------------------|--------------------|---------------------|-------------------------------|---|--|---|---|---|--|---------------------------------|
| | | Total (no.) | With 20 employ- ees or more (no.) | Number (1,000) | Payroll (million dollars) | Number (1,000) | Hours (millions) | Wages (million dollars) | | | | | | Spe- cial- ization (per- cent) | Cover- age (per- cent) |
| INDUSTRY 3351, COPPER ROLLING AND DRAWING | | | | | | | | | | | | | | | |
| 1987 Census ----- | (NA) | 121 | 91 | 22.4 | 582.6 | 17.4 | 36.5 | 413.3 | 1 555.9 | 3 531.3 | 4 993.3 | 88.3 | 772.1 | (NA) | (NA) |
| 1986 ASM ----- | (NA) | (NA) | (NA) | 21.2 | 525.1 | 16.5 | 34.2 | 378.1 | 1 182.1 | 2 629.7 | 3 820.6 | 85.1 | 542.3 | (NA) | (NA) |
| 1985 ASM ----- | (NA) | (NA) | (NA) | 22.4 | 517.8 | 17.1 | 34.5 | 367.1 | 1 061.2 | 2 611.2 | 3 671.8 | 132.0 | 540.8 | (NA) | (NA) |
| 1984 ASM ----- | (NA) | (NA) | (NA) | 23.4 | 554.3 | 18.0 | 37.8 | 399.1 | 1 285.7 | 4 020.2 | 4 020.2 | 110.0 | 592.1 | (NA) | (NA) |
| 1983 ASM ----- | (NA) | (NA) | (NA) | 22.8 | 511.2 | 17.1 | 33.9 | 357.5 | 1 189.2 | 2 663.5 | 3 855.1 | 94.0 | 568.6 | (NA) | (NA) |
| 1982 Census ----- | 102 | 137 | 95 | 23.3 | 468.2 | 17.2 | 32.6 | 322.9 | 957.7 | 2 267.0 | 3 270.0 | 123.9 | 557.1 | 90 | 95 |
| 1981 ASM ----- | (NA) | (NA) | (NA) | 31.2 | 615.6 | 23.8 | 47.5 | 444.4 | 1 244.3 | 3 524.3 | 4 783.6 | 104.1 | 542.9 | (NA) | (NA) |
| 1980 ASM ----- | (NA) | (NA) | (NA) | 31.0 | 573.7 | 23.6 | 47.9 | 411.1 | 1 108.2 | 3 723.4 | 4 839.2 | 79.5 | 548.8 | (NA) | (NA) |
| 1979 ASM ----- | (NA) | (NA) | (NA) | 35.8 | 624.1 | 28.1 | 57.2 | 458.3 | 1 343.8 | 4 014.4 | 5 332.5 | 91.9 | 586.7 | (NA) | (NA) |
| 1978 ASM ----- | (NA) | (NA) | (NA) | 33.3 | 513.4 | 25.9 | 53.7 | 383.3 | 1 169.3 | 2 966.1 | 4 090.5 | 71.2 | 496.3 | (NA) | (NA) |
| 1977 Census ----- | 101 | 140 | 99 | 31.3 | 455.5 | 24.2 | 50.5 | 338.7 | 973.7 | 3 019.9 | 4 013.8 | 64.4 | 472.1 | 85 | 92 |
| 1976 ASM ----- | (NA) | (NA) | (NA) | 34.1 | 460.3 | 26.5 | 54.9 | 336.5 | 979.0 | 2 843.2 | 3 779.6 | 63.2 | 492.0 | (NA) | (NA) |
| 1975 ASM ----- | (NA) | (NA) | (NA) | 32.2 | 383.8 | 24.0 | 46.8 | 270.0 | 691.7 | 2 160.1 | 2 873.7 | 55.6 | 431.5 | (NA) | (NA) |
| 1974 ASM ----- | (NA) | (NA) | (NA) | 37.8 | 437.8 | 29.5 | 61.2 | 325.3 | 1 000.2 | 3 489.7 | 4 493.7 | 54.4 | 415.1 | (NA) | (NA) |
| 1973 ASM ----- | (NA) | (NA) | (NA) | 39.9 | 434.9 | 31.8 | 67.3 | 330.6 | 1 022.1 | 2 950.4 | 3 964.6 | 51.7 | 379.8 | (NA) | (NA) |
| 1972 Census ----- | 101 | 149 | 117 | 37.8 | 383.7 | 29.9 | 63.2 | 288.4 | 800.3 | 2 313.8 | 3 098.8 | 65.3 | 327.7 | 89 | 93 |
| INDUSTRY 3353, ALUMINUM SHEET, PLATE, AND FOIL | | | | | | | | | | | | | | | |
| 1987 Census ----- | (NA) | 54 | 44 | 26.0 | 912.3 | 19.8 | 40.2 | 658.9 | 1 789.9 | 7 841.1 | 9 496.8 | 439.2 | 2 104.7 | (NA) | (NA) |
| 1986 ASM ----- | (NA) | (NA) | (NA) | 26.7 | 910.7 | 20.4 | 39.7 | 670.0 | 2 240.1 | 6 523.6 | 8 699.4 | 439.4 | 1 862.5 | (NA) | (NA) |
| 1985 ASM ----- | (NA) | (NA) | (NA) | 26.9 | 926.6 | 20.8 | 42.0 | 689.0 | 1 797.7 | 6 382.5 | 8 424.8 | 348.0 | 1 806.4 | (NA) | (NA) |
| 1984 ASM ----- | (NA) | (NA) | (NA) | 26.9 | 914.5 | 21.0 | 41.6 | 695.9 | 1 720.9 | 7 222.7 | 9 118.8 | 359.3 | 2 126.6 | (NA) | (NA) |
| 1983 ASM ----- | (NA) | (NA) | (NA) | 28.1 | 907.4 | 21.9 | 42.9 | 697.8 | 1 503.9 | 6 859.9 | 8 453.5 | 296.9 | 2 295.7 | (NA) | (NA) |
| 1982 Census⁵ ----- | 39 | 56 | 43 | 27.7 | 862.1 | 21.0 | 39.9 | 639.9 | 1 154.0 | 5 898.4 | 7 213.8 | 260.4 | 2 300.2 | 95 | 99 |
| 1981 ASM ----- | (NA) | (NA) | (NA) | 32.0 | 950.6 | 24.7 | 49.0 | 717.7 | 1 893.7 | 7 241.7 | 8 866.9 | 357.7 | 2 528.1 | (NA) | (NA) |
| 1980 ASM ----- | (NA) | (NA) | (NA) | 32.7 | 867.4 | 25.4 | 50.8 | 658.6 | 1 752.0 | 6 651.3 | 8 122.0 | 402.5 | 2 201.0 | (NA) | (NA) |
| 1979 ASM ----- | (NA) | (NA) | (NA) | 34.2 | 814.9 | 27.0 | 55.1 | 636.0 | 1 871.7 | 6 198.2 | 7 990.9 | 326.0 | 1 850.6 | (NA) | (NA) |
| 1978 ASM ----- | (NA) | (NA) | (NA) | 33.9 | 733.8 | 26.9 | 53.1 | 567.3 | 1 853.0 | 5 612.4 | 7 349.1 | 219.1 | 1 742.6 | (NA) | (NA) |
| 1977 Census ----- | 30 | 53 | 45 | 31.4 | 613.5 | 25.0 | 50.6 | 480.1 | 1 340.6 | 4 900.5 | 5 924.0 | 157.7 | 1 625.2 | 92 | 99 |
| 1976 ASM ----- | (NA) | (NA) | (NA) | 30.3 | 529.2 | 24.1 | 48.2 | 413.9 | 1 176.2 | 4 266.1 | 5 353.1 | 134.8 | 1 337.1 | (NA) | (NA) |
| 1975 ASM ----- | (NA) | (NA) | (NA) | 28.1 | 433.5 | 21.3 | 39.9 | 320.7 | 975.4 | 2 947.3 | 3 720.8 | 132.2 | 1 206.0 | (NA) | (NA) |
| 1974 ASM ----- | (NA) | (NA) | (NA) | 33.0 | 468.5 | 26.0 | 52.8 | 360.5 | 1 409.6 | 3 017.2 | 4 227.5 | 108.3 | 1 001.5 | (NA) | (NA) |
| 1973 ASM ----- | (NA) | (NA) | (NA) | 33.5 | 432.2 | 26.6 | 56.3 | 329.8 | 930.9 | 2 378.3 | 3 309.6 | 52.2 | 669.9 | (NA) | (NA) |
| 1972 Census ----- | 25 | 50 | 49 | 31.3 | 370.7 | 24.5 | 51.8 | 281.5 | 692.3 | 2 017.1 | 2 685.2 | 90.3 | 653.2 | 85 | 99 |
| INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS | | | | | | | | | | | | | | | |
| 1987 Census ----- | (NA) | 202 | 160 | 29.9 | 718.4 | 22.9 | 48.8 | 490.7 | 1 344.9 | 2 866.7 | 4 191.5 | 113.8 | 631.6 | (NA) | (NA) |
| 1986 ASM ----- | (NA) | (NA) | (NA) | 28.4 | 658.4 | 21.8 | 45.6 | 451.1 | 1 102.9 | 2 461.2 | 3 573.6 | 109.0 | 492.2 | (NA) | (NA) |
| 1985 ASM ----- | (NA) | (NA) | (NA) | 29.1 | 639.0 | 22.7 | 47.3 | 450.3 | 1 173.8 | 2 384.1 | 3 575.7 | 120.6 | 491.8 | (NA) | (NA) |
| 1984 ASM ----- | (NA) | (NA) | (NA) | 28.2 | 607.8 | 22.1 | 45.6 | 435.7 | 1 194.1 | 2 566.1 | 3 718.7 | 125.0 | 547.7 | (NA) | (NA) |
| 1983 ASM ----- | (NA) | (NA) | (NA) | 26.0 | 538.4 | 20.1 | 40.9 | 379.9 | 915.6 | 2 193.7 | 3 057.3 | 96.8 | 587.6 | (NA) | (NA) |
| 1982 Census ----- | 134 | 193 | 151 | 25.4 | 499.0 | 19.3 | 38.0 | 344.1 | 859.3 | 1 778.5 | 2 673.1 | 114.7 | 489.7 | 89 | 91 |
| 1981 ASM ----- | (NA) | (NA) | (NA) | 26.5 | 501.9 | 20.2 | 40.9 | 349.0 | 940.9 | 2 002.4 | 2 939.0 | 80.2 | 482.5 | (NA) | (NA) |
| 1980 ASM ----- | (NA) | (NA) | (NA) | 27.6 | 472.7 | 21.1 | 41.9 | 334.5 | 951.8 | 1 933.1 | 2 870.6 | 76.2 | 443.3 | (NA) | (NA) |
| 1979 ASM ----- | (NA) | (NA) | (NA) | 28.6 | 455.7 | 22.6 | 46.0 | 334.2 | 989.0 | 1 850.0 | 2 826.0 | 63.1 | 409.4 | (NA) | (NA) |
| 1978 ASM ----- | (NA) | (NA) | (NA) | 28.5 | 411.1 | 22.8 | 46.8 | 303.5 | 830.9 | 1 606.8 | 2 414.0 | 50.8 | 389.0 | (NA) | (NA) |
| 1977 Census ----- | 133 | 193 | 146 | 26.5 | 355.9 | 21.2 | 44.0 | 264.1 | 678.6 | 1 386.1 | 2 050.0 | 48.2 | 337.2 | 88 | 92 |
| 1976 ASM ----- | (NA) | (NA) | (NA) | 24.1 | 290.5 | 19.0 | 38.5 | 205.4 | 566.3 | 1 046.7 | 1 588.4 | 30.4 | 298.6 | (NA) | (NA) |
| 1975 ASM ----- | (NA) | (NA) | (NA) | 20.8 | 226.7 | 16.0 | 31.7 | 157.5 | 464.5 | 1 226.4 | 1 226.4 | 29.1 | 238.7 | (NA) | (NA) |
| 1974 ASM ----- | (NA) | (NA) | (NA) | 27.7 | 283.7 | 22.3 | 44.6 | 207.4 | 722.2 | 961.7 | 1 657.3 | 42.9 | 275.3 | (NA) | (NA) |
| 1973 ASM ----- | (NA) | (NA) | (NA) | 30.0 | 280.2 | 24.0 | 49.6 | 207.7 | 542.8 | 797.0 | 1 337.8 | 39.2 | 197.3 | (NA) | (NA) |
| 1972 Census ----- | 133 | 180 | 128 | 27.7 | 239.2 | 22.1 | 45.4 | 174.1 | 427.6 | 662.9 | 1 078.3 | 32.6 | 175.9 | 85 | 88 |
| INDUSTRY 3355, ALUMINUM ROLLING AND DRAWING, N.E.C. | | | | | | | | | | | | | | | |
| 1987 Census ----- | (NA) | 30 | 15 | 1.1 | 31.0 | .8 | 1.7 | 21.7 | 126.1 | 457.9 | 562.9 | 4.1 | 64.9 | (NA) | (NA) |
| 1986 ASM ----- | (NA) | (NA) | (NA) | 1.7 | 51.5 | 1.3 | 2.7 | 35.4 | 122.7 | 481.6 | 613.7 | 7.5 | 71.1 | (NA) | (NA) |
| 1985 ASM ----- | (NA) | (NA) | (NA) | 2.0 | 55.0 | 1.5 | 3.1 | 38.0 | 168.8 | 599.3 | 783.4 | 13.2 | 86.4 | (NA) | (NA) |
| 1984 ASM ----- | (NA) | (NA) | (NA) | 1.9 | 56.0 | 1.5 | 2.9 | 39.0 | 166.7 | 702.0 | 905.2 | 13.8 | 95.6 | (NA) | (NA) |
| 1983 ASM ----- | (NA) | (NA) | (NA) | 2.2 | 57.9 | 1.6 | 3.2 | 40.7 | 139.3 | 725.9 | 844.3 | 9.0 | 135.2 | (NA) | (NA) |
| 1982 Census ----- | 24 | 27 | 15 | 2.6 | 65.0 | 1.9 | 3.5 | 44.2 | 30.7 | 535.3 | 670.8 | 5.5 | 117.3 | 77 | 7 |
| 1981 ASM ----- | (NA) | (NA) | (NA) | 4.9 | 118.3 | 3.7 | 7.3 | 83.1 | 490.6 | 895.4 | 1 323.2 | 23.8 | 380.3 | (NA) | (NA) |
| 1980 ASM ----- | (NA) | (NA) | (NA) | 5.1 | 111.7 | 3.9 | 7.7 | 80.3 | 545.9 | 982.7 | 1 486.8 | 22.8 | 267.0 | (NA) | (NA) |
| 1979 ASM ----- | (NA) | (NA) | (NA) | 5.1 | 107.8 | 3.9 | 7.9 | 78.0 | 383.8 | 934.9 | 1 310.6 | 40.0 | 214.6 | (NA) | (NA) |
| 1978 ASM ----- | (NA) | (NA) | (NA) | 5.0 | 94.6 | 3.9 | 7.6 | 69.1 | 239.3 | 934.5 | 1 152.5 | 26.8 | 194.2 | (NA) | (NA) |
| 1977 Census ----- | 18 | 22 | 15 | 4.7 | 78.1 | 3.6 | 6.9 | 56.5 | 222.8 | 754.9 | 1 001.0 | 16.1 | 169.5 | 91 | 13 |
| 1976 ASM ----- | (NA) | (NA) | (NA) | 4.2 | 65.9 | 3.1 | 6.1 | 47.3 | 162.7 | 408.0 | 546.6 | 17.1 | 170.5 | (NA) | (NA) |
| 1975 ASM ----- | (NA) | (NA) | (NA) | 3.9 | 54.3 | 2.8 | 5.1 | 36.2 | 142.1 | 323.6 | 431.9 | 18.0 | 161.8 | (NA) | (NA) |
| 1974 ASM ----- | (NA) | (NA) | (NA) | 4.8 | 62.0 | 3.8 | 7.4 | 45.6 | 137.1 | 432.3 | 542.4 | 17.8 | 114.3 | (NA) | (NA) |
| 1973 ASM ----- | (NA) | (NA) | (NA) | 4.8 | 58.0 | 3.9 | 8.1 | 42.5 | 113.6 | 334.0 | 430.5 | 7.9 | 83.8 | (NA) | (NA) |
| 1972 Census ----- | 14 | 16 | 15 | 4.6 | 48.0 | 3.6 | 7.2 | 35.1 | 57.3 | 272.2 | 343.4 | 9.2 | 65.7 | 86 | 10 |

See footnotes at end of table.

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years—Con.

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix.]

| Year ¹ | All establishments ³ | | | All employees | | Production workers | | | Value added by manufac- ture ⁴ (million dollars) | Cost of materials (million dollars) | Value of shipments (million dollars) | New capital expendi- tures (million dollars) | End-of- year inven- tories ⁴ (million dollars) | Ratios | |
|---|--------------------------------------|----------------|---|-------------------|---------------------------------|--------------------|---------------------|-------------------------------|--|--|---|---|--|---------------------------------------|---------------------------------|
| | Com- panies ² (no.) | Total (no.) | With 20 employ- ees or more (no.) | Number (1,000) | Payroll (million dollars) | Number (1,000) | Hours (millions) | Wages (million dollars) | | | | | | Special- ization (per- cent) | Cover- age (per- cent) |
| INDUSTRY 3356, NONFERROUS ROLLING AND DRAWING, N.E.C. | | | | | | | | | | | | | | | |
| 1987 Census ---- | (NA) | 171 | 93 | 17.9 | 527.4 | 11.8 | 25.2 | 308.3 | 1 165.8 | 1 831.5 | 2 982.1 | 96.1 | 1 062.3 | (NA) | (NA) |
| 1986 ASM ----- | (NA) | (NA) | (NA) | 18.3 | 523.0 | 11.9 | 24.0 | 298.7 | 1 137.8 | 1 901.5 | 3 008.2 | 74.7 | 1 127.5 | (NA) | (NA) |
| 1985 ASM ----- | (NA) | (NA) | (NA) | 18.9 | 508.2 | 11.8 | 23.5 | 285.1 | 1 086.4 | 1 920.9 | 3 034.4 | 91.7 | 1 111.3 | (NA) | (NA) |
| 1984 ASM ----- | (NA) | (NA) | (NA) | 18.2 | 474.4 | 11.4 | 23.2 | 269.5 | 1 009.1 | 2 061.0 | 3 103.7 | 91.1 | 958.5 | (NA) | (NA) |
| 1983 ASM ----- | (NA) | (NA) | (NA) | 18.9 | 466.3 | 12.0 | 22.7 | 260.2 | 1 049.8 | 2 299.1 | 3 323.8 | 99.3 | 1 064.2 | (NA) | (NA) |
| 1982 Census ---- | 144 | 169 | 91 | 20.0 | 472.2 | 12.6 | 24.0 | 263.7 | 993.3 | 2 293.9 | 3 418.3 | 134.4 | 1 070.2 | 94 | 92 |
| 1981 ASM ----- | (NA) | (NA) | (NA) | 19.7 | 435.2 | 13.1 | 26.1 | 258.0 | 1 351.0 | 2 487.3 | 3 884.4 | 145.0 | 742.2 | (NA) | (NA) |
| 1980 ASM ----- | (NA) | (NA) | (NA) | 20.3 | 420.6 | 14.0 | 28.4 | 256.8 | 1 387.7 | 2 610.9 | 3 922.0 | 72.0 | 765.7 | (NA) | (NA) |
| 1979 ASM ----- | (NA) | (NA) | (NA) | 19.0 | 358.3 | 13.5 | 28.1 | 223.8 | 1 039.8 | 2 392.9 | 3 348.7 | 47.6 | 656.3 | (NA) | (NA) |
| 1978 ASM ----- | (NA) | (NA) | (NA) | 18.2 | 300.2 | 12.9 | 26.4 | 189.3 | 756.0 | 2 061.7 | 2 747.4 | 58.9 | 514.9 | (NA) | (NA) |
| 1977 Census ---- | 153 | 173 | 86 | 17.2 | 260.2 | 12.0 | 24.7 | 158.7 | 569.0 | 2 000.4 | 2 596.5 | 34.3 | 477.5 | 94 | 89 |
| 1976 ASM ----- | (NA) | (NA) | (NA) | 17.1 | 237.2 | 12.3 | 24.2 | 144.6 | 613.4 | 1 310.9 | 1 906.5 | 71.5 | 441.5 | (NA) | (NA) |
| 1975 ASM ----- | (NA) | (NA) | (NA) | 17.9 | 228.6 | 12.8 | 24.4 | 139.3 | 584.6 | 1 295.6 | 1 826.2 | 73.3 | 433.4 | (NA) | (NA) |
| 1974 ASM ----- | (NA) | (NA) | (NA) | 20.5 | 238.4 | 15.1 | 30.6 | 154.0 | 634.8 | 1 376.7 | 1 970.6 | 91.0 | 366.7 | (NA) | (NA) |
| 1973 ASM ----- | (NA) | (NA) | (NA) | 20.1 | 211.3 | 14.9 | 30.5 | 135.7 | 493.3 | 1 070.8 | 1 578.0 | 29.2 | 299.1 | (NA) | (NA) |
| 1972 Census ---- | 136 | 167 | 97 | 18.1 | 184.2 | 12.7 | 25.8 | 114.1 | 374.1 | 892.0 | 1 244.6 | 24.3 | 300.1 | 84 | 87 |
| INDUSTRY 3357, NONFERROUS WIREDRAWING AND INSULATING | | | | | | | | | | | | | | | |
| 1987 Census ---- | (NA) | 482 | 352 | 64.6 | 1 501.5 | 48.3 | 99.0 | 1 009.1 | 4 168.6 | 6 591.4 | 10 658.5 | 236.6 | 1 562.8 | (NA) | (NA) |
| 1986 ASM ----- | (NA) | (NA) | (NA) | 59.0 | 1 352.5 | 44.3 | 89.9 | 898.6 | 3 309.8 | 5 743.8 | 9 055.8 | 219.6 | 1 330.1 | (NA) | (NA) |
| 1985 ASM ----- | (NA) | (NA) | (NA) | 64.4 | 1 411.4 | 47.9 | 96.1 | 934.1 | 3 427.0 | 5 706.4 | 9 217.4 | 308.4 | 1 338.3 | (NA) | (NA) |
| 1984 ASM ----- | (NA) | (NA) | (NA) | 68.5 | 1 460.2 | 51.7 | 102.8 | 981.3 | 3 461.7 | 5 954.3 | 9 323.1 | 249.9 | 1 446.7 | (NA) | (NA) |
| 1983 ASM ----- | (NA) | (NA) | (NA) | 63.9 | 1 291.9 | 47.1 | 93.6 | 850.4 | 2 762.5 | 5 522.7 | 8 320.8 | 219.9 | 1 305.5 | (NA) | (NA) |
| 1982 Census ---- | 271 | 440 | 340 | 67.6 | 1 269.6 | 49.8 | 95.5 | 835.6 | 2 826.6 | 5 262.8 | 8 216.9 | 294.4 | 1 295.6 | 97 | 88 |
| 1981 ASM ----- | (NA) | (NA) | (NA) | 66.3 | 1 191.4 | 49.9 | 101.2 | 811.1 | 2 977.6 | 5 997.8 | 8 888.1 | 293.4 | 1 363.1 | (NA) | (NA) |
| 1980 ASM ----- | (NA) | (NA) | (NA) | 67.5 | 1 125.7 | 51.3 | 103.6 | 768.9 | 2 911.1 | 6 006.1 | 8 851.8 | 230.8 | 1 266.8 | (NA) | (NA) |
| 1979 ASM ----- | (NA) | (NA) | (NA) | 68.2 | 1 062.2 | 52.3 | 108.5 | 738.3 | 2 822.7 | 5 459.1 | 8 165.9 | 177.5 | 1 219.5 | (NA) | (NA) |
| 1978 ASM ----- | (NA) | (NA) | (NA) | 68.0 | 968.7 | 52.2 | 108.1 | 675.9 | 2 421.6 | 4 690.9 | 7 060.4 | 164.8 | 1 014.1 | (NA) | (NA) |
| 1977 Census ---- | 245 | 421 | 320 | 66.3 | 876.8 | 50.0 | 101.8 | 603.4 | 2 117.6 | 4 493.1 | 6 595.4 | 139.8 | 960.7 | 94 | 86 |
| 1976 ASM ----- | (NA) | (NA) | (NA) | 61.5 | 756.1 | 46.3 | 92.9 | 518.6 | 1 862.4 | 3 778.2 | 5 579.0 | 121.6 | 871.3 | (NA) | (NA) |
| 1975 ASM ----- | (NA) | (NA) | (NA) | 59.0 | 680.7 | 43.5 | 85.2 | 450.4 | 1 731.5 | 3 128.9 | 4 908.8 | 164.6 | 795.6 | (NA) | (NA) |
| 1974 ASM ----- | (NA) | (NA) | (NA) | 76.0 | 820.4 | 57.6 | 116.9 | 553.1 | 2 387.6 | 4 568.0 | 6 866.2 | 185.9 | 978.3 | (NA) | (NA) |
| 1973 ASM ----- | (NA) | (NA) | (NA) | 72.9 | 735.3 | 56.0 | 119.2 | 516.2 | 1 767.0 | 3 642.1 | 5 375.8 | 129.7 | 750.6 | (NA) | (NA) |
| 1972 Census ---- | 206 | 341 | 278 | 68.8 | 645.6 | 52.9 | 110.4 | 452.2 | 1 448.0 | 2 984.4 | 4 412.3 | 149.7 | 657.8 | 94 | 89 |
| INDUSTRY 3398, METAL HEAT TREATING | | | | | | | | | | | | | | | |
| 1987 Census ---- | (NA) | 714 | 291 | 17.7 | 413.8 | 13.2 | 27.5 | 260.2 | 999.7 | 318.5 | 1 319.0 | 80.5 | 90.1 | (NA) | (NA) |
| 1986 ASM ----- | (NA) | (NA) | (NA) | 18.6 | 411.9 | 14.3 | 29.9 | 273.4 | 973.5 | 408.0 | 1 381.7 | 84.6 | 52.5 | (NA) | (NA) |
| 1985 ASM ----- | (NA) | (NA) | (NA) | 18.4 | 382.9 | 14.2 | 28.9 | 255.3 | 958.6 | 388.5 | 1 309.6 | 79.4 | 48.6 | (NA) | (NA) |
| 1984 ASM ----- | (NA) | (NA) | (NA) | 18.0 | 373.7 | 13.7 | 28.0 | 252.9 | 918.4 | 520.1 | 1 397.0 | 71.3 | 47.4 | (NA) | (NA) |
| 1983 ASM ----- | (NA) | (NA) | (NA) | 16.9 | 314.9 | 12.5 | 24.6 | 210.5 | 691.7 | 377.9 | 1 064.1 | 26.8 | 102.9 | (NA) | (NA) |
| 1982 Census ---- | 669 | 758 | 288 | 17.7 | 324.2 | 13.5 | 26.9 | 216.6 | 684.5 | 416.0 | 1 128.2 | 42.5 | 98.1 | (⁶) | (⁶) |
| 1981 ASM ----- | (NA) | (NA) | (NA) | 17.8 | 321.2 | 14.0 | 28.0 | 210.6 | 872.2 | 370.2 | 1 190.6 | 52.3 | 75.8 | (NA) | (NA) |
| 1980 ASM ----- | (NA) | (NA) | (NA) | 18.7 | 310.5 | 14.6 | 28.9 | 204.4 | 809.1 | 342.6 | 1 150.3 | 42.5 | 78.0 | (NA) | (NA) |
| 1979 ASM ----- | (NA) | (NA) | (NA) | 18.0 | 283.3 | 14.2 | 29.2 | 191.1 | 639.2 | 404.5 | 1 030.0 | 42.6 | 88.8 | (NA) | (NA) |
| 1978 ASM ----- | (NA) | (NA) | (NA) | 17.7 | 262.0 | 14.0 | 30.8 | 180.5 | 617.2 | 383.2 | 995.8 | 41.7 | 74.1 | (NA) | (NA) |
| 1977 Census ---- | 682 | 753 | 273 | 16.9 | 220.1 | 13.3 | 27.6 | 147.9 | 466.8 | 281.9 | 744.9 | 42.2 | 69.0 | (⁶) | (⁶) |
| 1976 ASM ----- | (NA) | (NA) | (NA) | 14.8 | 187.0 | 10.8 | 25.8 | 124.0 | 399.9 | 192.4 | 592.5 | 25.6 | 41.5 | (NA) | (NA) |
| 1975 ASM ----- | (NA) | (NA) | (NA) | 14.4 | 185.0 | 10.4 | 25.0 | 121.5 | 375.4 | 179.6 | 556.5 | 24.3 | 57.1 | (NA) | (NA) |
| 1974 ASM ----- | (NA) | (NA) | (NA) | 15.5 | 179.0 | 11.5 | 27.6 | 121.3 | 391.3 | 150.6 | 539.2 | 18.8 | 29.5 | (NA) | (NA) |
| 1973 ASM ----- | (NA) | (NA) | (NA) | 16.8 | 171.8 | 13.2 | 27.3 | 116.6 | 343.2 | 161.7 | 504.6 | 719.5 | 27.1 | (NA) | (NA) |
| 1972 Census ---- | 886 | 952 | 266 | 17.2 | 157.3 | 13.4 | 27.4 | 106.6 | 310.6 | 159.1 | 467.4 | 23.1 | 36.2 | (NA) | (NA) |
| INDUSTRY 3399, PRIMARY METAL PRODUCTS, N.E.C. | | | | | | | | | | | | | | | |
| 1987 Census ---- | (NA) | 240 | 102 | 14.3 | 367.8 | 9.3 | 17.5 | 189.4 | 790.9 | 876.3 | 1 648.5 | 61.9 | 416.6 | (NA) | (NA) |
| 1986 ASM ----- | (NA) | (NA) | (NA) | 14.8 | 366.4 | 9.6 | 17.6 | 184.5 | 741.6 | 791.3 | 1 538.0 | 53.2 | 399.3 | (NA) | (NA) |
| 1985 ASM ----- | (NA) | (NA) | (NA) | 14.5 | 347.6 | 9.5 | 17.4 | 186.1 | 782.3 | 743.5 | 1 533.9 | 59.6 | 423.0 | (NA) | (NA) |
| 1984 ASM ----- | (NA) | (NA) | (NA) | 9.9 | 227.0 | 6.7 | 12.7 | 137.9 | 662.4 | 670.1 | 1 301.3 | 52.8 | 342.8 | (NA) | (NA) |
| 1983 ASM ----- | (NA) | (NA) | (NA) | 8.4 | 200.0 | 5.9 | 11.2 | 120.7 | 427.6 | 592.0 | 1 025.0 | 26.9 | 350.7 | (NA) | (NA) |
| 1982 Census ---- | 238 | 249 | 80 | 8.2 | 173.4 | 5.6 | 10.6 | 101.4 | 313.5 | 595.2 | 938.1 | 51.7 | 369.6 | 87 | 82 |
| 1981 ASM ----- | (NA) | (NA) | (NA) | 10.3 | 208.7 | 7.0 | 14.2 | 122.5 | 456.1 | 815.8 | 1 285.3 | 48.8 | 293.3 | (NA) | (NA) |
| 1980 ASM ----- | (NA) | (NA) | (NA) | 9.5 | 171.6 | 6.7 | 14.1 | 105.8 | 417.0 | 818.9 | 1 228.7 | 37.4 | 273.1 | (NA) | (NA) |
| 1979 ASM ----- | (NA) | (NA) | (NA) | 9.5 | 160.7 | 6.7 | 13.9 | 97.7 | 432.5 | 783.1 | 1 181.1 | 35.8 | 243.1 | (NA) | (NA) |
| 1978 ASM ----- | (NA) | (NA) | (NA) | 10.2 | 156.1 | 7.7 | 15.6 | 100.9 | 367.7 | 521.9 | 879.7 | 38.1 | 172.3 | (NA) | (NA) |
| 1977 Census ---- | 406 | 427 | 119 | 9.0 | 124.4 | 6.9 | 13.9 | 81.2 | 296.5 | 454.9 | 750.6 | 27.3 | 149.2 | 94 | 70 |
| 1976 ASM ----- | (NA) | (NA) | (NA) | 9.8 | 136.5 | 7.2 | 13.6 | 86.4 | 301.6 | 348.0 | 643.0 | 32.8 | 123.5 | (NA) | (NA) |
| 1975 ASM ----- | (NA) | (NA) | (NA) | 9.3 | 114.1 | 6.7 | 12.5 | 68.8 | 220.4 | 282.9 | 510.8 | 34.5 | 119.7 | (NA) | (NA) |
| 1974 ASM ----- | (NA) | (NA) | (NA) | 9.9 | 114.4 | 7.3 | 14.2 | 74.2 | 247.5 | 361.1 | 590.4 | 35.3 | 112.6 | (NA) | (NA) |
| 1973 ASM ----- | (NA) | (NA) | (NA) | 9.9 | 106.5 | 7.4 | 14.9 | 72.6 | 222.8 | 264.9 | 486.2 | 730.1 | 78.8 | (NA) | (NA) |
| 1972 Census ---- | 128 | 168 | 105 | 7.9 | 75.5 | 6.0 | 12.2 | 50.7 | 165.0 | 184.5 | 348.3 | 26.9 | 64.4 | 92 | 74 |

Note: Establishments of single unit companies with up to 20 employees (cutoff varied by industry) were excluded from the mail portion of the census. Data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were estimated based on administrative-record information from other agencies in conjunction with industry averages. These establishments accounted for the following percent of total value of shipments: SIC 3351, 5%; SIC 3353, 1%; SIC 3354, 9%; SIC 3355, 22%; SIC 3356, 10%; SIC 3357, 12%; SIC 3398, 25%; and SIC 3399, 13%.

¹In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1972, see 1972 Census of Manufactures, vol. II, table 1a of the Industry chapter.

²For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

Table 1. **Historical Statistics for the Industry: 1987 and Earlier Years—Con.**

³Includes establishments with payroll at any time during year.

⁴Beginning with the 1982 Census of Manufactures, all respondents were requested to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior Censuses and annual surveys of manufactures in which respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, inventories and value added by manufacture are not comparable to prior-year data.

⁵Data for 1982 are not directly comparable to prior-year data due to misclassification of some establishments in prior years. Historical data have not been revised because of the possibility of disclosing data for individual companies.

⁶Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts of contract and commission work on materials owned by others.

⁷Estimates for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates of other data items are of acceptable reliability.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers:
Part A. Industries 3351, 3353, 3354, 3355, 3356, and 3357

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

| 1987 product code | Product | 1987 | | | | | | | |
|-------------------------|--|---|------------------------------------|--|-------------------------------|------------|-------------------------------|----------------------|-------------------------------|
| | | Number of companies with shipments of \$100,000 or more | Quantity of total production | Product shipments ¹ | | | | | |
| | | | | Total, including interplant transfers | | Commercial | | Interplant transfers | |
| | | | | Quantity ² | Value (million dollars) | Quantity | Value (million dollars) | Quantity | Value (million dollars) |
| 3351-- | COPPER ROLLING AND DRAWING | | | | | | | | |
| | Total | (NA) | (X) | (X) | 4 508.9 | (X) | (X) | (X) | (X) |
| 33511 -- | Copper and copper-base alloy wire, bare and tinned (nonelectrical) | (NA) | (X) | (X) | 323.8 | (X) | (X) | (X) | (X) |
| 33511 11 | Unalloyed | (NA) | 75.2 | 73.6 | 180.6 | (D) | (D) | (D) | (D) |
| 33511 31 | Alloyed | (NA) | 42.8 | 37.5 | 120.3 | (D) | (D) | (D) | (D) |
| 33511 00 | Copper and copper-base alloy wire, bare and tinned (nonelectrical), n.s.k. | (NA) | (X) | (X) | 22.9 | (X) | (X) | (X) | (X) |
| 33513 -- | Copper and copper-base alloy rod, bar, and shapes | (NA) | (X) | (X) | 1 763.4 | (X) | (X) | (X) | (X) |
| 33513 11 | Unalloyed copper bars and shapes and nonelectrical rod | (NA) | 989.3 | 850.0 | 1 088.1 | (D) | (D) | (D) | (D) |
| 33513 32 | Copper-base alloy rod, bar, and shapes | (NA) | 413.4 | 402.1 | 668.6 | 381.8 | 634.7 | 20.3 | 33.9 |
| 33513 00 | Copper and copper-base alloy rod, bar, and shapes, n.s.k. | (NA) | (X) | (X) | 6.7 | (X) | (X) | (X) | (X) |
| 33514 -- | Copper and copper-base alloy sheet, strip, and plate | (NA) | (X) | (X) | 1 015.1 | (X) | (X) | (X) | (X) |
| 33514 13 | Unalloyed copper flat products (sheet, strip, plate, foil, etc.) | (NA) | 150.4 | 144.0 | 288.2 | 391.2 | 850.9 | 71.5 | 149.2 |
| 33514 35 | Copper-base alloy flat products (sheet, strip, plate, and foil) including military cups and discs (net weight) | (NA) | 377.1 | 318.7 | 711.9 | | | | |
| 33514 00 | Copper and copper-base alloy sheet, strip, and plate, n.s.k. | (NA) | (X) | (X) | 14.9 | (X) | (X) | (X) | (X) |
| 33515 -- | Copper and copper-base alloy pipe and tube | (NA) | (X) | (X) | 1 261.7 | (X) | (X) | (X) | (X) |
| 33515 16 | Unalloyed: Pipe and tube, plumbing | (NA) | 299.5 | 302.3 | 716.6 | (D) | (D) | (D) | (D) |
| 33515 18 | Other pipe and tube | (NA) | 211.6 | 211.0 | 311.8 | (D) | (D) | (D) | (D) |
| 33515 36 | Alloyed: Pipe and tube, plumbing | (NA) | 17.0 | 15.4 | 50.4 | (D) | (D) | (D) | (D) |
| 33515 38 | Other pipe and tube | (NA) | 32.2 | 37.6 | 118.9 | 37.6 | 118.9 | (Z) | (Z) |
| 33515 00 | Copper and copper-base alloy pipe and tube, n.s.k. | (NA) | (X) | (X) | 64.0 | (X) | (X) | (X) | (X) |
| 33510 -- | Copper rolling and drawing, n.s.k. | (NA) | (X) | (X) | 144.9 | (X) | (X) | (X) | (X) |
| 33510 00 | Copper rolling and drawing, n.s.k., typically for establishments with 20 employees or more (see note) | (NA) | (X) | (X) | 127.9 | (X) | (X) | (X) | (X) |
| 33510 02 | Copper rolling and drawing, n.s.k., typically for establishments with less than 20 employees (see note) | (NA) | (X) | (X) | 17.0 | (X) | (X) | (X) | (X) |
| 3353-- | ALUMINUM SHEET, PLATE, AND FOIL | | | | | | | | |
| | Total | (NA) | (X) | (X) | 9 051.4 | (X) | (X) | (X) | (X) |
| 33531 -- | Aluminum plate (0.25 in. or more), including continuous cast: | (NA) | (X) | (X) | 433.7 | (X) | (X) | (X) | (X) |
| 33531 13 | Heat-treatable | (NA) | 96.1 | 82.0 | 274.0 | 120.3 | 389.7 | 13.3 | 32.8 |
| 33531 15 | Nonheat-treatable | (NA) | 43.0 | 51.6 | 148.5 | | | | |
| 33531 00 | Aluminum plate, n.s.k. | (NA) | (X) | (X) | 11.2 | (X) | (X) | (X) | (X) |
| 33532 -- | Aluminum sheet and strip, including continuous cast | (NA) | (X) | (X) | 7 998.3 | (X) | (X) | (X) | (X) |
| 33532 23 | Flat, heat-treatable | (NA) | 71.2 | 66.4 | 189.3 | | | | |
| 33532 25 | Flat, nonheat-treatable, bare and precoated (including only permanent finishes such as enameling and vinyl coating, but excluding coatings which are applied only for temporary protection) | (NA) | 99.5 | 111.4 | 254.8 | 152.7 | 393.5 | 25.1 | 50.6 |
| 33532 27 | Coiled, heat-treatable | (NA) | 982.2 | 648.2 | 1 219.8 | 2 597.9 | 5 031.7 | 873.0 | 1 281.3 |
| 33532 31 | Coiled, nonheat-treatable, bare | (NA) | 2 999.7 | 2 822.7 | 5 093.2 | | | | |
| 33532 33 | Coiled, nonheat-treatable, precoated (including only permanent finishes such as enameling and vinyl coating, but excluding coatings which are applied only for temporary protection) | (NA) | 569.3 | 613.6 | 1 193.9 | 472.7 | 972.4 | 140.9 | 221.5 |
| 33532 00 | Aluminum sheet and strip, including continuous cast, n.s.k. | (NA) | (X) | (X) | 47.4 | (X) | (X) | (X) | (X) |
| 33533 -- | Plain aluminum foil: | | | | | | | | |
| 33533 00 | Plain aluminum foil (less than .006 in.) | (NA) | 256.7 | 249.0 | 546.6 | (D) | (D) | (D) | (D) |
| 33534 -- | Aluminum welded tube: | | | | | | | | |
| 33534 00 | Aluminum welded tube | (NA) | (S) | (S) | 40.6 | (D) | (D) | (D) | (D) |
| 33530 -- | Aluminum sheet, plate, and foil, n.s.k. | (NA) | (X) | (X) | 32.1 | (X) | (X) | (X) | (X) |
| 33530 00 | Aluminum sheet, plate, and foil, n.s.k., typically for establishments with 10 employees or more (see note) | (NA) | (X) | (X) | 28.6 | (X) | (X) | (X) | (X) |
| 33530 02 | Aluminum sheet, plate, and foil, n.s.k., typically for establishments with less than 10 employees (see note) | (NA) | (X) | (X) | 3.5 | (X) | (X) | (X) | (X) |

See footnotes at end of table.

1987 and 1982—Con.

of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of

| 1987 — Con. | | 1982 | | | | | | | | | | 1987 product code |
|---|---|---|------------------------------------|--|-------------------------------|------------|-------------------------------|----------------------|-------------------------------|---|---|-------------------------|
| Quantity of shipments of products made from materials owned by others | Quantity produced and consumed in the same plant in the manufacture of other products | Number of companies with shipments of \$100,000 or more | Quantity of total production | Product shipments ¹ | | | | | | Quantity of shipments of products made from materials owned by others | Quantity produced and consumed in the same plant in the manufacture of other products | |
| | | | | Total, including interplant transfers | | Commercial | | Interplant transfers | | | | |
| | | | | Quantity ² | Value (million dollars) | Quantity | Value (million dollars) | Quantity | Value (million dollars) | | | |
| (X) | (X) | (NA) | (X) | (X) | 2 941.6 | (X) | (X) | (X) | (X) | (X) | (X) | 3351- -- |
| (X) | (X) | (NA) | (X) | (X) | 346.4 | (X) | (X) | (X) | (X) | (X) | (X) | 33511 -- |
| - | (D) | 11 | 61.5 | 59.8 | 181.9 | 79.6 | 279.5 | 40.2 | 66.9 | 8.3 | 7.9 | 33511 11 |
| (D) | (D) | 24 | 53.9 | 60.0 | 164.6 | | | | | | | 33511 31 |
| (X) | (X) | (NA) | (X) | (X) | - | (X) | (X) | (X) | (X) | (X) | (X) | 33511 00 |
| (X) | (X) | (NA) | 866.3 | 697.0 | 921.0 | 476.2 | 635.5 | 220.8 | 285.5 | (X) | (X) | 33513 -- |
| (D) | 343.8 | 13 | 464.4 | 375.5 | 403.4 | 180.2 | 160.9 | 195.3 | 242.5 | 187.6 | 83.1 | 33513 11 |
| 11.9 | 21.4 | 29 | 401.9 | 321.5 | 517.6 | 296.0 | 474.6 | 25.5 | 43.0 | | | 33513 32 |
| (X) | (X) | (NA) | (X) | (X) | - | (X) | (X) | (X) | (X) | (X) | (X) | 33513 00 |
| (X) | (X) | (NA) | (X) | (X) | 800.8 | (X) | (X) | (X) | (X) | (X) | (X) | 33514 -- |
| (D) | 140.6 | 15 | 122.3 | 105.4 | 206.0 | 386.8 | 726.0 | 43.5 | 74.9 | 120.9 | 20.4 | 33514 13 |
| | | 23 | 346.0 | 324.9 | 594.8 | | | | | | | 33514 35 |
| (X) | (X) | (NA) | (X) | (X) | - | (X) | (X) | (X) | (X) | (X) | (X) | 33514 00 |
| (X) | (X) | (NA) | (X) | (X) | 845.0 | (X) | (X) | (X) | (X) | (X) | (X) | 33515 -- |
| (D) | (D) | 14 | 223.6 | *221.7 | 435.5 | 264.2 | 586.0 | 31.2 | 45.1 | 10.3 | 9.7 | 33515 16 |
| - | 28.6 | 13 | 76.6 | 73.7 | 195.6 | | | | | | | 33515 18 |
| - | (D) | 12 | 9.6 | 11.6 | 49.4 | 54.1 | 212.3 | .5 | 1.0 | .6 | 7.1 | 33515 36 |
| .6 | .3 | 19 | 43.7 | 43.0 | 163.9 | | | | | | | 33515 38 |
| (X) | (X) | (NA) | (X) | (X) | .6 | (X) | (X) | (X) | (X) | (X) | (X) | 33515 00 |
| (X) | (X) | (NA) | (X) | (X) | 28.3 | (X) | (X) | (X) | (X) | (X) | (X) | 33510 -- |
| (X) | (X) | (NA) | (X) | (X) | 19.2 | (X) | (X) | (X) | (X) | (X) | (X) | 33510 00 |
| (X) | (X) | (NA) | (X) | (X) | 9.1 | (X) | (X) | (X) | (X) | (X) | (X) | 33510 02 |
| | | | | | | | | | | | | 3353- -- |
| (X) | (X) | (NA) | (X) | (X) | 6 519.7 | (X) | (X) | (X) | (X) | (X) | (X) | |
| (X) | (X) | (NA) | (X) | (X) | 378.6 | (X) | (X) | (X) | (X) | (X) | (X) | 33531 -- |
| - | - | 7 | 72.0 | 69.3 | 246.6 | (D) | (D) | (D) | (D) | (D) | (D) | 33531 13 |
| (X) | (X) | (NA) | 49.3 | 50.4 | 132.0 | (D) | (D) | (D) | (D) | (D) | (D) | 33531 15 |
| | | | (X) | (X) | - | (X) | (X) | (X) | (X) | (X) | (X) | 33531 00 |
| (X) | (X) | (NA) | (X) | (X) | 5 555.5 | (X) | (X) | (X) | (X) | (X) | (X) | 33532 -- |
| - | - | 8 | 38.9 | 35.6 | 119.0 | 141.0 | 315.0 | 12.5 | 28.1 | 2.0 | 6.0 | 33532 23 |
| | | | | | | | | | | | | 33532 25 |
| (D) | - | 10 | 120.1 | 117.9 | 224.0 | 258.6 | 528.5 | 183.7 | 283.7 | (D) | 15.7 | 33532 27 |
| (D) | 59.0 | 16 | 514.0 | 442.3 | 812.3 | | | | | | | 33532 31 |
| | | | 2 065.0 | 1 511.9 | 3 560.6 | 1 094.6 | 2 831.4 | 417.3 | 729.2 | (D) | | 33532 33 |
| (D) | (D) | 14 | 364.9 | 370.1 | 826.3 | 277.8 | 612.4 | 92.3 | 214.0 | 1.9 | - | 33532 00 |
| (X) | (X) | (NA) | (X) | (X) | 13.2 | (X) | (X) | (X) | (X) | (X) | (X) | |
| - | 11.1 | 12 | 245.3 | 240.4 | 545.1 | (D) | (D) | (D) | (D) | (D) | (D) | 33533 -- |
| | | | | | | | | | | | | 33533 00 |
| - | - | 6 | 12.4 | 12.6 | 29.8 | (D) | (D) | (D) | (D) | - | - | 33534 -- |
| | | | | | | | | | | | | 33534 00 |
| (X) | (X) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | (X) | (X) | 33530 -- |
| (X) | (X) | (NA) | (X) | (X) | 7.2 | (X) | (X) | (X) | (X) | (X) | (X) | 33530 00 |
| (X) | (X) | (NA) | (X) | (X) | 3.6 | (X) | (X) | (X) | (X) | (X) | (X) | 33530 02 |

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers:
Part A. Industries 3351, 3353, 3354, 3355, 3356, and 3357—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers Shipments in appendix. For meaning of abbreviations and symbols, see introductory text.]

| 1987 product code | Product | 1987 | | | | | | | |
|-------------------------|---|---|------------------------------------|--|-------------------------------|------------|-------------------------------|----------------------|-------------------------------|
| | | Number of companies with shipments of \$100,000 or more | Quantity of total production | Product shipments ¹ | | | | | |
| | | | | Total, including interplant transfers | | Commercial | | Interplant transfers | |
| | | | | Quantity ² | Value (million dollars) | Quantity | Value (million dollars) | Quantity | Value (million dollars) |
| 3354-- | ALUMINUM EXTRUDED PRODUCTS | | | | | | | | |
| | Total | (NA) | (X) | (X) | 3 744.3 | (X) | (X) | (X) | (X) |
| 33541 -- | Extruded aluminum rod, bar, and other extruded shapes | (NA) | (X) | (X) | 3 003.8 | (X) | (X) | (X) | (X) |
| 33541 15 | Extruded rod and bar: Alloys, other than 2000 and 7000 series | (NA) | 196.1 | 196.6 | 462.6 | 185.6 | 440.8 | 11.0 | 21.8 |
| 33541 18 | Alloys in 2000 and 7000 series | (NA) | 165.1 | 159.9 | 349.4 | 105.6 | 270.3 | 54.3 | 79.1 |
| 33541 25 | Other extruded shapes, except tube: Alloys, other than 2000 and 7000 series | (NA) | 723.7 | 739.3 | 1 561.1 | 805.5 | 1 848.5 | 47.2 | 106.9 |
| 33541 28 | Alloys in 2000 and 7000 series | (NA) | 112.4 | 113.4 | 394.3 | | | | |
| 33541 00 | Extruded aluminum rod, bar, and other extruded shapes, n.s.k. | (NA) | (X) | (X) | 236.4 | (X) | (X) | (X) | (X) |
| 33542 -- | Aluminum extruded and drawn tube | (NA) | (X) | (X) | 472.7 | (X) | (X) | (X) | (X) |
| 33542 61 | Aluminum tube and other extruded and drawn products: Alloys in 2000 and 7000 series | (NA) | 190.3 | *152.7 | 385.0 | 166.6 | 447.0 | 3.1 | 5.7 |
| 33542 63 | Alloys other than 2000 and 7000 series | (NA) | (S) | (S) | 67.7 | | | | |
| 33542 00 | Aluminum extruded and drawn tube, n.s.k. | (NA) | (X) | (X) | 20.0 | (X) | (X) | (X) | (X) |
| 33540 -- | Aluminum extruded products, n.s.k. | (NA) | (X) | (X) | 267.7 | (X) | (X) | (X) | (X) |
| 33540 00 | Aluminum extruded products, n.s.k., typically for establishments with 10 employees or more (see note) | (NA) | (X) | (X) | 254.0 | (X) | (X) | (X) | (X) |
| 33540 02 | Aluminum extruded products, n.s.k., typically for establishments with less than 10 employees (see note) | (NA) | (X) | (X) | 13.7 | (X) | (X) | (X) | (X) |
| 3355-- | ALUMINUM ROLLING AND DRAWING, N.E.C. | | | | | | | | |
| | Total | (NA) | (X) | (X) | 1 099.4 | (X) | (X) | (X) | (X) |
| 33551 -- | Aluminum and aluminum-base alloy wire and cable, except covered or insulated (including ACSR), produced in aluminum rolling mills (see also code 33571) | (NA) | (X) | (X) | 111.4 | (X) | (X) | (X) | (X) |
| 33551 11 | Wire and cable (except insulated): Bare wire for electrical transmission | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33551 51 | Bare wire, other than for electrical transmission | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33551 61 | Aluminum cable, steel reinforced (ACSR) (gross weight) | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33551 65 | Other aluminum cable, bare | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33551 00 | Aluminum and aluminum-base alloy wire and cable, except covered or insulated (including ACSR), produced in aluminum rolling mills, n.s.k. | (NA) | (X) | (X) | (D) | (D) | (D) | (D) | (D) |
| 33552 -- | Rolled aluminum rod, bar (including continuous cast), and structural shapes | (NA) | (X) | (X) | 301.3 | (X) | (X) | (X) | (X) |
| 33552 22 | Rolled | (NA) | 174.2 | 145.6 | 232.1 | (D) | (D) | (D) | (D) |
| 33552 25 | Continuous cast | (NA) | | | | | | | |
| 33552 00 | Rolled aluminum rod, bar (including continuous cast), and structural shapes, n.s.k. | (NA) | (X) | (X) | 69.2 | (X) | (X) | (X) | (X) |
| 33553 -- | Aluminum ingot, produced in aluminum rolling mills (see also codes 33347 and 33417): | | | | | | | | |
| 33553 00 | Aluminum ingot, except extrusion billet | (NA) | 1 493.5 | 233.7 | 325.9 | (D) | (D) | (D) | (D) |
| 33554 -- | Aluminum extrusion billet, produced in aluminum rolling mills (see also codes 33348 and 33418): | | | | | | | | |
| 33554 00 | Aluminum extrusion billet | (NA) | (S) | (S) | 281.9 | 111.6 | 153.4 | 98.4 | 128.5 |
| 33550 -- | Aluminum rolling and drawing, n.e.c., n.s.k. | (NA) | (X) | (X) | 78.9 | (X) | (X) | (X) | (X) |
| 33550 00 | Aluminum rolling and drawing, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note) | (NA) | (X) | (X) | 65.8 | (X) | (X) | (X) | (X) |
| 33550 02 | Aluminum rolling and drawing, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note) | (NA) | (X) | (X) | 13.1 | (X) | (X) | (X) | (X) |
| 3356-- | NONFERROUS ROLLING AND DRAWING, N.E.C. | | | | | | | | |
| | Total | (NA) | (X) | (X) | 2 770.9 | (X) | (X) | (X) | (X) |
| 33561 -- | Nickel and nickel-base alloy mill shapes (including nickel- copper alloys) | (NA) | (X) | (X) | 625.9 | (X) | (X) | (X) | (X) |
| 33561 61 | Plate, sheet, and strip, excluding nickel-copper alloys | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33561 64 | Other nickel shapes, excluding nickel-copper alloys | (NA) | 37.7 | 40.2 | 336.6 | (D) | (D) | (D) | (D) |
| 33561 65 | Nickel-copper alloys, all shapes and forms, except wire | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33561 66 | Nickel and nickel alloy wire | (NA) | 1.3 | 1.3 | 17.1 | (D) | (D) | (D) | (D) |
| 33561 00 | Nickel and nickel-base alloy mill shapes (including nickel- copper alloys), n.s.k. | (NA) | (X) | (X) | (D) | (X) | (X) | (X) | (X) |
| 33562 -- | Titanium mill shapes | (NA) | (X) | (X) | 499.0 | (X) | (X) | (X) | (X) |
| 33562 72 | Ingot | (NA) | 18.3 | 18.0 | 142.2 | (D) | (D) | (D) | (D) |
| 33562 74 | Forging and extrusion billet | (NA) | (S) | (S) | 130.5 | (D) | (D) | (D) | (D) |
| 33562 78 | Wire | (NA) | (S) | (S) | (D) | (D) | (D) | (D) | (D) |
| 33562 79 | Other titanium mill products (sheet, plate, tubing, bar, etc.), except wire | (NA) | (S) | (S) | 199.0 | (D) | (D) | (D) | (D) |
| 33562 00 | Titanium mill shapes, n.s.k. | (NA) | (X) | (X) | 27.3 | (X) | (X) | (X) | (X) |

See footnotes at end of table.

1987 and 1982—Con.

of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of

| 1987—Con. | | 1982 | | | | | | | | | | | 1987 product code |
|---|---|---|------------------------------------|--|-------------------------------|------------|-------------------------------|----------------------|-------------------------------|---|---|----------|-------------------------|
| Quantity of shipments of products made from materials owned by others | Quantity produced and consumed in the same plant in the manufacture of other products | Number of companies with shipments of \$100,000 or more | Quantity of total production | Product shipments ¹ | | | | | | Quantity of shipments of products made from materials owned by others | Quantity produced and consumed in the same plant in the manufacture of other products | | |
| | | | | Total, including interplant transfers | | Commercial | | Interplant transfers | | | | | |
| | | | | Quantity ² | Value (million dollars) | Quantity | Value (million dollars) | Quantity | Value (million dollars) | | | | |
| (X) | (X) | (NA) | (X) | (X) | 2 550.5 | (X) | (X) | (X) | (X) | (X) | (X) | 3354— — | |
| (X) | (X) | (NA) | (X) | (X) | 2 100.4 | (X) | (X) | (X) | (X) | (X) | (X) | 33541 — | |
| (D) — | 1.7 (D) | 44 15 | 214.6 83.6 | *219.4 78.1 | 472.6 199.8 | 258.0 | 590.0 | 39.5 | 82.4 | (D) | (D) | 33541 15 | |
| 87.4 | 3.6 | 70 17 | 504.7 112.9 | 493.2 112.1 | 1 100.3 284.4 | 575.9 | 1 336.1 | 29.4 | 48.7 | (D) | (D) | 33541 18 | |
| (X) | (X) | (NA) | (X) | (X) | 43.2 | (X) | (X) | (X) | (X) | (X) | (X) | 33541 25 | |
| (X) | (X) | (NA) | (X) | (X) | 430.1 | (X) | (X) | (X) | (X) | (X) | (X) | 33541 28 | |
| 27.6 | (D) | 45 | 169.3 | 165.6 | 420.4 | 146.3 | 385.0 | 19.2 | 35.5 | (D) | (D) | 33541 00 | |
| (X) | (X) | (NA) | (X) | (X) | 9.6 | (X) | (X) | (X) | (X) | (X) | (X) | 33542 — | |
| (X) | (X) | (NA) | (X) | (X) | 20.1 | (X) | (X) | (X) | (X) | (X) | (X) | 33542 61 | |
| (X) | (X) | (NA) | (X) | (X) | 11.0 | (X) | (X) | (X) | (X) | (X) | (X) | 33542 63 | |
| (X) | (X) | (NA) | (X) | (X) | 9.1 | (X) | (X) | (X) | (X) | (X) | (X) | 33542 00 | |
| (X) | (X) | (NA) | (X) | (X) | 9.1 | (X) | (X) | (X) | (X) | (X) | (X) | 33540 — | |
| (X) | (X) | (NA) | (X) | (X) | 9.1 | (X) | (X) | (X) | (X) | (X) | (X) | 33540 00 | |
| (X) | (X) | (NA) | (X) | (X) | 9.1 | (X) | (X) | (X) | (X) | (X) | (X) | 33540 02 | |
| (X) | (X) | (NA) | (X) | (X) | 919.1 | (X) | (X) | (X) | (X) | (X) | (X) | 3355— — | |
| (X) | (X) | (NA) | (X) | (X) | 201.5 | (X) | (X) | (X) | (X) | (X) | (X) | 33551 — | |
| — | — | 4 | (NA) | 46.2 | 73.3 | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | 33551 11 | |
| — | — | 6 | (NA) | (D) | (D) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | 33551 51 | |
| — | — | 2 | (NA) | (D) | (D) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | 33551 61 | |
| — | — | 1 | (NA) | (D) | (D) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | 33551 65 | |
| (X) | (X) | (NA) | (X) | (X) | — | (X) | (X) | (X) | (X) | (X) | (X) | 33551 00 | |
| (X) | (X) | (NA) | (X) | (X) | 285.5 | (X) | (X) | (X) | (X) | (X) | (X) | 33552 — | |
| (D) | (D) | 6 | 90.3 | 68.5 | 104.0 | 103.7 | 158.6 | 65.4 | 107.4 | (D) | (D) | 33552 22 | |
| (X) | (X) | (NA) | (X) | (X) | 19.5 | (X) | (X) | (X) | (X) | (X) | (X) | 33552 25 | |
| 1 324.7 | (D) | 9 | (NA) | (D) | (D) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | 33552 00 | |
| 163.0 | (D) | 16 | (NA) | (D) | (D) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | 33553 — | |
| (X) | (X) | (NA) | (X) | (X) | 19.0 | (X) | (X) | (X) | (X) | (X) | (X) | 33553 00 | |
| (X) | (X) | (NA) | (X) | (X) | 15.4 | (X) | (X) | (X) | (X) | (X) | (X) | 33554 — | |
| (X) | (X) | (NA) | (X) | (X) | 3.6 | (X) | (X) | (X) | (X) | (X) | (X) | 33554 00 | |
| (X) | (X) | (NA) | (X) | (X) | 3 305.0 | (X) | (X) | (X) | (X) | (X) | (X) | 33554 — | |
| (X) | (X) | (NA) | (X) | (X) | (NA) | (X) | (X) | (X) | (X) | (X) | (X) | 33554 00 | |
| (D) | (D) | 8 | 12.1 | 12.1 | 201.4 | (D) | (D) | (D) | (D) | (D) | (D) | 33561 — | |
| (D) | (D) | 12 | 25.0 | 25.0 | 301.8 | (D) | (D) | (D) | (D) | (D) | (D) | 33561 61 | |
| — | — | 7 | 17.8 | 17.5 | 134.1 | (D) | (D) | (D) | (D) | (D) | (D) | 33561 64 | |
| — | — | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | 33561 65 | |
| (X) | (X) | (NA) | (X) | (X) | — | (X) | (X) | (X) | (X) | (X) | (X) | 33561 66 | |
| (X) | (X) | (NA) | (X) | (X) | (NA) | (X) | (X) | (X) | (X) | (X) | (X) | 33561 00 | |
| — | (D) | 9 | 14.9 | 14.3 | 128.2 | (D) | (D) | (D) | (D) | (D) | (D) | 33562 — | |
| (X) | (X) | 7 | 12.8 | 12.8 | 165.9 | (D) | (D) | (D) | (D) | (D) | (D) | 33562 72 | |
| — | — | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | 33562 74 | |
| (X) | (X) | 18 | 16.8 | 17.9 | 315.1 | (D) | (D) | (D) | (D) | (D) | (D) | 33562 78 | |
| (X) | (X) | (NA) | (X) | (X) | — | (X) | (X) | (X) | (X) | (X) | (X) | 33562 79 | |
| (X) | (X) | (NA) | (X) | (X) | — | (X) | (X) | (X) | (X) | (X) | (X) | 33562 00 | |

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers:
Part A. Industries 3351, 3353, 3354, 3355, 3356, and 3357—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers Shipments in appendix. For meaning of abbreviations and symbols, see introductory text.]

| 1987 product code | Product | 1987 | | | | | | | |
|-------------------------|---|---|------------------------------------|--|-------------------------------|------------|-------------------------------|----------------------|-------------------------------|
| | | Number of companies with shipments of \$100,000 or more | Quantity of total production | Product shipments ¹ | | | | | |
| | | | | Total, including interplant transfers | | Commercial | | Interplant transfers | |
| | | | | Quantity ² | Value (million dollars) | Quantity | Value (million dollars) | Quantity | Value (million dollars) |
| 3356— | NONFERROUS ROLLING AND DRAWING, N.E.C. | | | | | | | | |
| | —Con. | | | | | | | | |
| 33563 — | Precious metal mill shapes | (NA) | (X) | (X) | 788.2 | (X) | (X) | (X) | (X) |
| 33563 81 | Gold, excluding wire | (NA) | 3 980.6 | 1 632.5 | 327.3 | (D) | (D) | (D) | (D) |
| | 1,000 troy ounces | (NA) | 56 412.8 | 54 609.1 | 216.9 | (D) | (D) | (D) | (D) |
| 33563 83 | Silver, excluding wire | (NA) | (S) | (S) | 2.3 | (D) | (D) | (D) | (D) |
| 33563 85 | Platinum, excluding wire | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33563 87 | Other, excluding wire | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33563 91 | Precious metal wire | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33563 00 | Precious metal mill shapes, n.s.k. | (NA) | (X) | (X) | 69.4 | (X) | (X) | (X) | (X) |
| 33569 — | All other nonferrous metal mill shapes | (NA) | (X) | (X) | 678.5 | (X) | (X) | (X) | (X) |
| 33569 34 | Magnesium and magnesium-base alloy mill shapes, including rod, bar, sheet, plate, etc.; excluding powder and wire | (NA) | (D) | (D) | (D) | (D) | (D) | - | - |
| | 1,000 s tons | (NA) | (D) | (D) | (D) | (D) | (D) | - | - |
| 33569 51 | Lead and lead-base alloy mill shapes: Plate, sheet, and strip | (NA) | 15.8 | 16.4 | 16.1 | 16.4 | 16.1 | - | - |
| | 1,000 s tons | (NA) | 3.5 | 3.5 | 3.8 | 3.5 | 3.8 | - | - |
| 33569 55 | Pipe, tubing, traps, and bends | (NA) | 21.9 | 21.3 | 56.5 | 21.3 | 56.5 | - | - |
| 33569 59 | Other rolled, drawn, or extruded lead products | (NA) | (D) | (D) | (D) | (D) | (D) | - | - |
| 33569 71 | Zinc and zinc-base alloy mill shapes, including plate, sheet, strip, rods, bars, pipe, and tubing; excluding wire | (NA) | (D) | (D) | (D) | (D) | (D) | - | - |
| 33569 91 | Other nonferrous wire, except copper, aluminum, nickel, titanium, and precious metals | (NA) | 11.9 | 5.7 | 35.6 | (D) | (D) | (D) | (D) |
| | do | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33569 94 | Other nonferrous metals—rolled, drawn, and extruded shapes, excluding wire: | (NA) | (S) | (S) | 16.3 | (D) | (D) | (D) | (D) |
| | 1,000 s tons | (NA) | (S) | (S) | 21.9 | (D) | (D) | (D) | (D) |
| 33569 96 | Molybdenum | (NA) | 30.3 | 30.0 | 300.2 | (D) | (D) | (D) | (D) |
| 33569 98 | Other | (NA) | (X) | (X) | 98.9 | (X) | (X) | (X) | (X) |
| 33569 00 | All other nonferrous metal mill shapes, n.s.k. | (NA) | (X) | (X) | 179.4 | (X) | (X) | (X) | (X) |
| 33560 — | Nonferrous rolling and drawing, n.e.c., n.s.k. | (NA) | (X) | (X) | 133.2 | (X) | (X) | (X) | (X) |
| 33560 00 | Rolled and drawn nonferrous metals, n.s.k., typically for establishments with 20 employees or more (see note) | (NA) | (X) | (X) | 46.2 | (X) | (X) | (X) | (X) |
| 33560 02 | Rolled and drawn nonferrous metals, n.s.k., typically for establishments with less than 20 employees (see note) | (NA) | (X) | (X) | 46.2 | (X) | (X) | (X) | (X) |
| 3357— | NONFERROUS WIREDRAWING AND INSULATING | | | | | | | | |
| | Total | (NA) | (X) | (X) | 10 267.3 | (X) | (X) | (X) | (X) |
| 33571 — | Aluminum and aluminum-base alloy wire and cable except covered or insulated (including ACSR) produced in nonferrous wiredrawing plants (see also code 33551) | (NA) | (X) | (X) | 306.8 | (X) | (X) | (X) | (X) |
| 33571 11 | Bare wire for electrical transmission | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| | 1,000 s tons | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33571 51 | Bare wire for other than electrical transmission | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33571 61 | Aluminum cable, steel reinforced (ACSR) (gross weight) | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33571 65 | Other aluminum cable, bare | (NA) | (D) | (D) | (D) | (D) | (D) | (D) | (D) |
| 33571 00 | Aluminum and aluminum-base alloy wire and cable except covered or insulated (including ACSR) produced in nonferrous wiredrawing plants, n.s.k. | (NA) | (X) | (X) | 21.4 | (X) | (X) | (X) | (X) |
| 33572 — | Copper and copper-base alloy wire (including strand and cable), bare and tinned, for electrical transmission | (NA) | (X) | (X) | 450.6 | (X) | (X) | (X) | (X) |
| 33572 21 | Electrical wire rod | (NA) | (D) | (D) | (³) | (D) | (D) | (D) | (D) |
| | 1,000 s tons | (NA) | 106.1 | 56.0 | 95.5 | 46.5 | 81.3 | 9.5 | 14.2 |
| 33572 11 | Bare wire, unalloyed, for electrical transmission | (NA) | (S) | (S) | 368.5 | (D) | (D) | (D) | (D) |
| 33572 51 | Bare wire, alloyed, for electrical transmission | (NA) | 151.4 | 83.5 | 195.6 | (D) | (D) | (D) | (D) |
| 33572 71 | Strand and cable, bare, for electrical transmission | (NA) | (X) | (X) | 91.0 | (X) | (X) | (X) | (X) |
| 33572 00 | Copper and copper-base alloy wire (including strand and cable) bare and tinned, for electrical transmission, n.s.k. | (NA) | (X) | (X) | 91.0 | (X) | (X) | (X) | (X) |
| 33573 — | Other bare nonferrous metal wire, made in nonferrous wiredrawing plants (see also code 3356991): | (NA) | (S) | (S) | 121.1 | (D) | (D) | (D) | (D) |
| 33573 00 | Other nonferrous metal wire, except insulated | (NA) | (S) | (S) | 121.1 | (D) | (D) | (D) | (D) |
| | 1,000 s tons | (NA) | (S) | (S) | 121.1 | (D) | (D) | (D) | (D) |
| 33575 — | Nonferrous wire cloth and other woven wire products made in nonferrous wiredrawing plants (see also code 34965) | (NA) | (X) | (X) | 26.5 | (X) | (X) | (X) | (X) |
| 33575 17 | Insect wire screening, nonferrous | (NA) | (X) | (D) | (D) | (D) | (D) | - | - |
| 33575 57 | Paper machine wire cloth (fourdrinier and cylinder) | (NA) | (X) | (X) | - | (D) | (D) | - | - |
| 33575 85 | Industrial wire cloth, nonferrous | (NA) | (X) | (D) | (D) | (D) | (D) | - | - |
| 33575 00 | Nonferrous wire cloth and other woven wire products made in nonferrous wiredrawing plants, n.s.k. | (NA) | (X) | (X) | 1.7 | (X) | (X) | (X) | (X) |
| 33576 — | Apparatus wire and cord and flexible cord sets (see also code 36996): | (NA) | (X) | (X) | 802.6 | (X) | (X) | (X) | (X) |
| 33576 00 | Apparatus wire and cordage and flexible cord sets (excluding wiring harnesses) (manufactured primarily from wire insulated in the same establishment) (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable) | (NA) | (X) | (X) | 802.6 | (X) | (X) | (X) | (X) |
| 33577 — | Magnet wire: | (NA) | (X) | (X) | 687.4 | (X) | (X) | (X) | (X) |
| 33577 00 | Magnet wire (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable) | (NA) | (X) | (X) | 687.4 | (X) | (X) | (X) | (X) |
| 33578 — | Power wire and cable: | (NA) | (X) | (X) | 1 141.0 | (X) | (X) | (X) | (X) |
| 33578 00 | Power wire and cable (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable) | (NA) | (X) | (X) | 1 141.0 | (X) | (X) | (X) | (X) |

See footnotes at end of table.

of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of

1987 CENSUS OF MANUFACTURES PRELIMINARY STATISTICS 11

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers:
Part A. Industries 3351, 3353, 3354, 3355, 3356, and 3357—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

| 1987 product code | Product | 1987 | | | | | | | |
|-------------------------|--|---|------------------------------------|--|-------------------------------|------------|-------------------------------|----------------------|-------------------------------|
| | | Number of companies with shipments of \$100,000 or more | Quantity of total production | Product shipments ¹ | | | | | |
| | | | | Total, including interplant transfers | | Commercial | | Interplant transfers | |
| | | | | Quantity ² | Value (million dollars) | Quantity | Value (million dollars) | Quantity | Value (million dollars) |
| 3357— | NONFERROUS WIREDRAWING AND INSULATING | | | | | | | | |
| | —Con. | | | | | | | | |
| 33579 — | Fiber optic cable | (NA) | (X) | (X) | 507.3 | (X) | (X) | (X) | (X) |
| 33579 11 | Communication (telephone, telegraph, and electronic) | (NA) | (X) | (X) | 483.2 | (X) | (X) | (X) | (X) |
| 33579 21 | All other uses | (NA) | (X) | (X) | (D) | (X) | (X) | (X) | (X) |
| 33579 00 | Fiber optic cable, n.s.k. | (NA) | (X) | (X) | (D) | (X) | (X) | (X) | (X) |
| 3357A — | Electronic wire and cable: | | | | | | | | |
| 3357A 00 | Electronic wire and cable (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable) | (NA) | (X) | (X) | 1 505.3 | (X) | (X) | (X) | (X) |
| 3357B — | Telephone and telegraph wire and cable: | | | | | | | | |
| 3357B 00 | Telephone and telegraph wire and cable (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable) | (NA) | (X) | (X) | 1 461.4 | (X) | (X) | (X) | (X) |
| 3357C — | Control and signal wire and cable: | | | | | | | | |
| 3357C 00 | Control and signal wire and cable (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable) | (NA) | (X) | (X) | 178.0 | (X) | (X) | (X) | (X) |
| 3357D — | Building wire and cable: | | | | | | | | |
| 3357D 00 | Building wire and cable (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable) | (NA) | (X) | (X) | 1 856.7 | (X) | (X) | (X) | (X) |
| 3357E — | Other wire and cable, n.e.c.: | | | | | | | | |
| 3357E 00 | Other wire and cable, including automotive (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable) | (NA) | (X) | (X) | 505.9 | (X) | (X) | (X) | (X) |
| 33570 — | Nonferrous wiredrawing and insulating, n.s.k. | (NA) | (X) | (X) | 716.9 | (X) | (X) | (X) | (X) |
| 33570 00 | Nonferrous wiredrawing and insulating, n.s.k., typically for establishments with 20 employees or more (see note) | (NA) | (X) | (X) | 575.9 | (X) | (X) | (X) | (X) |
| 33570 02 | Nonferrous wiredrawing and insulating, n.s.k., typically for establishments with less than 20 employees (see note) | (NA) | (X) | (X) | 141.0 | (X) | (X) | (X) | (X) |

1987 and 1982—Con.

of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of

| 1987—Con. | | 1982 | | | | | | | | | | 1987 product code |
|---|---|---|------------------------------------|--|-------------------------------|------------|-------------------------------|----------------------|-------------------------------|---|---|-------------------------|
| Quantity of shipments of products made from materials owned by others | Quantity produced and consumed in the same plant in the manufacture of other products | Number of companies with shipments of \$100,000 or more | Quantity of total production | Product shipments¹ | | | | | | Quantity of shipments of products made from materials owned by others | Quantity produced and consumed in the same plant in the manufacture of other products | |
| | | | | Total, including interplant transfers | | Commercial | | Interplant transfers | | | | |
| | | | | Quantity² | Value (million dollars) | Quantity | Value (million dollars) | Quantity | Value (million dollars) | | | |
| (X) | (X) | 16 | (X) | (X) | 88.6 | (X) | (X) | (X) | (X) | (X) | (X) | |
| (X) | (X) | 9 | — | (X) | 83.9 | (X) | (X) | — | — | — | — | 33579 11 |
| (X) | (X) | 5 | — | (X) | 4.7 | (X) | (X) | — | — | — | — | 33579 21 |
| (X) | (X) | (NA) | (X) | (X) | — | (X) | (X) | (X) | (X) | (X) | (X) | 33579 00 |
| (X) | (X) | 132 | (X) | (X) | 1 304.4 | (X) | (X) | (X) | — | — | — | 3357A — 3357A 00 |
| (X) | (X) | 75 | (X) | (X) | 1 815.2 | (X) | (X) | (X) | — | — | — | 3357B — 3357B 00 |
| (X) | (X) | 60 | (X) | (X) | 248.8 | (X) | (X) | (X) | — | — | — | 3357C — 3357C 00 |
| (X) | (X) | 69 | (X) | (X) | 1 083.6 | (X) | (X) | (X) | — | — | — | 3357D — 3357D 00 |
| (X) | (X) | 86 | (X) | (X) | 550.6 | (X) | (X) | (X) | — | — | — | 3357E — 3357E 00 |
| (X) | (X) | (NA) | (X) | (X) | 175.4 | (X) | (X) | (X) | (X) | (X) | (X) | 33570 — 33570 00 |
| (X) | (X) | (NA) | (X) | (X) | 144.6 | (X) | (X) | (X) | (X) | (X) | (X) | 33570 02 |
| (X) | (X) | (NA) | (X) | (X) | 30.8 | (X) | (X) | (X) | (X) | (X) | (X) | |

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

Part B. Industries 3398 and 3399

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

| 1987 product code | Product | 1987 | | | 1982 | | |
|-------------------------|--|---|--------------------------------|-------------------------------|---|--------------------------------|-------------------------------|
| | | Number of companies with shipments of \$100,000 or more | Product shipments ¹ | | Number of companies with shipments of \$100,000 or more | Product shipments ¹ | |
| | | | Quantity ² | Value (million dollars) | | Quantity ² | Value (million dollars) |
| 3398-- | METAL HEAT TREATING | | | | | | |
| | Total | (NA) | (X) | 1 307.5 | (NA) | (X) | 1 105.9 |
| 33980 -- | Heat treating of metal for the trade: | | | | | | |
| 33980 00 | Heat treating, pickling, annealing, brazing, shot peening, tempering, etc., of metal for the trade | (NA) | (X) | 1 270.0 | (NA) | (X) | 1 066.2 |
| 33980 02 | Metal heat treating, n.s.k., typically for establishments with less than 10 employees | (NA) | (X) | 37.5 | (NA) | (X) | 39.7 |
| 3399-- | PRIMARY METAL PRODUCTS, N.E.C. | | | | | | |
| | Total | (NA) | (X) | 1 511.3 | (NA) | (X) | 959.0 |
| 33991 -- | Metal powders, paste, and flakes | (NA) | (X) | 1 039.1 | (NA) | (X) | 799.1 |
| 33991 11 | Aluminum and aluminum-base alloy | (NA) | (X) | 134.6 | 21 | *181.0 | 155.3 |
| 33991 33 | Copper and copper-base alloy | (NA) | (X) | 113.9 | 21 | *38.7 | 64.9 |
| 33991 55 | Iron and steel | (NA) | (X) | 177.3 | 25 | *322.5 | 118.9 |
| 33991 66 | Nickel-cobalt base superalloy materials | (NA) | (S) | 33.2 | 9 | 4.1 | 54.2 |
| 33991 77 | Tungsten and tungsten base alloys | (NA) | (S) | 121.1 | 11 | 9.1 | 178.4 |
| 33991 86 | Molybdenum | (NA) | (S) | 30.7 | 4 | 1.5 | 21.9 |
| 33991 87 | Titanium | (NA) | (S) | 32.5 | 3 | (*) | (*) |
| 33991 88 | Tantalum | (NA) | (S) | 32.5 | 3 | (*) | (*) |
| 33991 91 | Precious metals and precious metal base alloys (gold, silver, platinum, etc.) | (NA) | (X) | 14.9 | 27 | *79.1 | *205.1 |
| 33991 98 | Other nonferrous powders, paste, and flakes | (NA) | (X) | 113.3 | (NA) | (X) | .3 |
| 33991 00 | Metal powders, paste, and flakes, n.s.k. | (NA) | (X) | 96.0 | (NA) | (X) | .3 |
| 33992 -- | Other primary metal products, n.e.c. | (NA) | (X) | 311.9 | (NA) | (X) | 119.9 |
| 33992 11 | Nonferrous nails, brads, tacks, and staples | (NA) | (S) | 188.4 | 10 | (S) | 24.4 |
| 33992 98 | Other primary metal products, n.e.c. | (NA) | (X) | 101.8 | 42 | (X) | 95.4 |
| 33992 00 | Other primary metal products, n.e.c., n.s.k. | (NA) | (X) | 21.8 | (NA) | (X) | - |
| 33990 -- | Primary metal products, n.e.c., n.s.k. | (NA) | (X) | 160.2 | (NA) | (X) | 40.0 |
| 33990 00 | Primary metal products, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note) | (NA) | (X) | 152.6 | (NA) | (X) | 26.6 |
| 33990 02 | Primary metal products, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note) | (NA) | (X) | 7.6 | (NA) | (X) | 13.4 |

Note: In 1987 Census of Manufactures, data for establishments of small single unit companies with up to 20 employees were estimated from administrative-record data rather than data actually collected from respondents. Employment cutoffs used for administrative records for each industry and shipments figures are included in code ending with "002". In both 1987 and 1982 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (five-digit) followed by "00" or to appropriate product group code (four-digit) followed by "000".

¹Data reported by all producers, not just those with shipments of \$100,000 or more.
²For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).
³For 1987 and 1982, product code 33572 21 is combined with product code 33572 51 to avoid disclosing data of individual companies.
⁴For 1982, product codes 33991 87 and 33991 88 are combined with product code 33991 99 to avoid disclosing data for individual companies.

Table 3. Materials Consumed by Kind: 1987 and 1982

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

| 1987 material code | Material | 1987 | | 1982 | |
|--------------------------|--|-----------------------|--|-----------------------|--|
| | | Quantity ¹ | Delivered cost (million dollars) | Quantity ¹ | Delivered cost (million dollars) |
| | INDUSTRY 3351, COPPER ROLLING AND DRAWING | | | | |
| | Materials, parts, containers, and supplies | (X) | 3 311.6 | (X) | 2 078.4 |
| 333404 | Nonferrous metals and alloys (ingot, pig, shot, etc.): | | | | |
| 333405 | Aluminum, unalloyed | 12.5 | 17.4 | 8.7 | 17.8 |
| 333123 | Aluminum-base alloys | | | | |
| 333124 | Copper, unalloyed: | | | | |
| 333126 | Cathodes | 775.5 | 804.8 | 192.8 | 247.8 |
| 333127 | Wire bar | 17.2 | 24.1 | 150.0 | 239.7 |
| 333128 | Ingot and ingot bar | 48.8 | 76.4 | | |
| 333129 | Other (including cakes, slabs, billets, etc.) | 192.2 | 313.0 | 117.1 | 186.3 |
| 333128 | Copper-base alloy raw materials: | | | | |
| 333129 | Ingot and ingot bar | (D) | (D) | 14.6 | 23.1 |
| 333129 | Other (including billets, shot, waffle, hardeners, etc.) | 33.7 | 71.8 | 77.9 | 87.9 |
| 333984 | Lead and lead-base alloys | 2.2 | 1.6 | 3.6 | 2.0 |
| 333973 | Magnesium and magnesium-base alloys | (D) | (D) | (D) | (D) |
| 333971 | Nickel and nickel-base alloys | 1.8 | 9.9 | 2.3 | 13.7 |
| 333348 | Zinc and zinc-base alloys | 59.1 | 48.4 | 49.1 | 41.7 |
| 333981 | Molybdenum and molybdenum-base alloys | (D) | (D) | - | - |
| 333983 | Tin and tin-base alloys | *1.5 | 5.2 | **1.1 | 7.6 |

See footnotes at end of table.

Table 3. Materials Consumed by Kind: 1987 and 1982—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

| 1987 material code | Material | 1987 | | 1982 | |
|--------------------------|--|-----------------------|--|-----------------------|--|
| | | Quantity ¹ | Delivered cost (million dollars) | Quantity ¹ | Delivered cost (million dollars) |
| | INDUSTRY 3351, COPPER ROLLING AND DRAWING—Con. | | | | |
| | Nonferrous metals and alloys (ingot, pig, shot, etc.)—Con. | | | | |
| 333985 | Vanadium and vanadium-base alloys ----- mil lb.. | - | - | (D) | (D) |
| 333904 | Precious metals and alloys (including gold, silver, and platinum metals) ----- 1,000 troy | | | | |

See footnotes at end of table.

Table 3. Materials Consumed by Kind: 1987 and 1982—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text.]

| 1987 material code | Material | 1987 | | 1982 | |
|--------------------------|--|-----------------------|--|-----------------------|--|
| | | Quantity ¹ | Delivered cost (million dollars) | Quantity ¹ | Delivered cost (million dollars) |
| | INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS—Con. | | | | |
| | Aluminum and aluminum-base alloy mill shapes (rod, bar, sheets, etc.), except castings: | | | | |
| 335301 | Sheets, plates, and foil | (⁹) | (⁹) | (⁹) | (⁹) |
| 335405 | Extruded shapes | (S) | 104.7 | 9 174.3 | 43.6 |
| 335008 | All other | ⁵ 37.3 | ⁵ 31.5 | ⁵ 12.3 | ⁵ 14.9 |
| 308007 | Plastics products consumed in the form of sheets, rods, tubes, and other shapes | (X) | (D) | (X) | (NA) |
| 970099 | All other materials and components, parts, containers, and supplies | (X) | 261.9 | (X) | 163.9 |
| 971000 | Materials, parts, containers, and supplies, n.s.k. ² | (X) | 255.6 | (X) | 77.8 |
| | INDUSTRY 3355, ALUMINUM ROLLING AND DRAWING, N.E.C. | | | | |
| | Materials, parts, containers, and supplies | (X) | 445.5 | (X) | 512.9 |
| | Nonferrous metals and alloys (ingot, pig, shot, etc.): | | | | |
| 333404 | Aluminum, unalloyed | (D) | (D) | 140.8 | 196.1 |
| 333405 | Aluminum-base alloys | (D) | (D) | 87.5 | 131.2 |
| | Nonferrous metal scrap, excluding home scrap: | | | | |
| | Aluminum and aluminum-base alloys: | | | | |
| 190021 | From other establishments of same company | (D) | (D) | 13.8 | 17.3 |
| 190022 | From all other sources | (D) | (D) | | |
| | Aluminum and aluminum-base alloy mill shapes (rods, bars, sheets, etc.), except castings: | | | | |
| 335301 | Sheets, plates, and foil | (D) | (D) | - | - |
| 335405 | Extruded shapes | (D) | (D) | - | - |
| 335008 | All other | - | - | .2 | .7 |
| 970099 | All other materials and components, parts, containers, and supplies | (X) | 84.6 | (X) | 122.8 |
| 971000 | Materials, parts, containers, and supplies, n.s.k. ² | (X) | 104.0 | (X) | 44.8 |
| | INDUSTRY 3356, NONFERROUS ROLLING AND DRAWING, N.E.C. | | | | |
| | Materials, parts, containers, and supplies | (X) | 1 642.2 | (X) | 2 160.4 |
| | Nonferrous metals and alloys (ingot, pig, shot, etc.): | | | | |
| 333404 | Aluminum, unalloyed | 7.2 | 9.6 | 3.7 | 8.0 |
| 333405 | Aluminum-base alloys | | | | |
| | Copper, unalloyed: | | | | |
| 333123 | Cathodes | (D) | (D) | **4 | .7 |
| 333124 | Wire bar | (D) | (D) | | |
| 333126 | Ingot and ingot bar | (D) | (D) | 4.7 | 13.0 |
| 333127 | Other (including cakes, slabs, billets, etc.) | (D) | (D) | | |
| | Copper-base alloy raw materials: | | | | |
| 333128 | Ingot and ingot bar | 1.5 | 3.6 | (9) | (9) |
| 333129 | Other (including billets, shot, waffle, hardeners, etc.) | | | | |
| 333984 | Lead and lead-base alloys | **16.5 | 12.4 | 44.2 | 26.1 |
| 333973 | Magnesium and magnesium-base alloys | 8.8 | 27.7 | 16.0 | 45.4 |
| 333971 | Nickel and nickel-base alloys | *36.4 | 158.1 | 75.4 | 328.9 |
| 333348 | Zinc and zinc-base alloys | (D) | (D) | (9) | (9) |
| 333981 | Molybdenum and molybdenum-base alloys | 4.1 | 15.9 | .9 | 9.9 |
| 333983 | Tin and tin-base alloys | 7.9 | 24.3 | 1.4 | 8.6 |
| 333985 | Vanadium and vanadium-base alloys | (D) | (D) | 3.0 | 8.1 |
| 333987 | Tungsten and tungsten-base alloys | (S) | 4.7 | 627.4 | 628.4 |
| 333904 | Precious metals and alloys (including gold, silver, and platinum metals) | 3 144.8 | 461.3 | 78.6 | 1 345.5 |
| | 1,000 troy ounces | | | | |
| 333909 | Other nonferrous metals and alloys | **43.4 | 266.3 | | |
| | Nonferrous metal scrap, excluding home scrap: | | | | |
| | Aluminum and aluminum-base alloys: | | | | |
| 190021 | From other establishments of the same company | - | - | (D) | (?) |
| 190022 | From all other sources | (D) | (D) | - | - |
| 190025 | Lead and lead-base alloys (including antimonial lead scrap) | (D) | (D) | (D) | (?) |
| 190024 | Copper and copper-base alloys | (D) | (D) | - | - |
| | Aluminum and aluminum-base alloy mill shapes (rod, bar, sheet, etc.), except castings: | | | | |
| 335301 | Sheets, plates, and foil | (Z) | (Z) | - | - |
| 335405 | Extruded shapes | - | - | (Z) | - |
| 335008 | All other | (D) | (D) | - | - |
| 335100 | Brass mill shapes (rod, bar, sheet, etc.) | 1.6 | 1.3 | (D) | (?) |
| 970099 | All other materials and components, parts, containers, and supplies | (X) | 439.2 | (X) | 7327.6 |
| 971000 | Materials, parts, containers, and supplies, n.s.k. ² | (X) | 172.8 | (X) | 10.2 |
| | INDUSTRY 3357, NONFERROUS WIREDRAWING AND INSULATING | | | | |
| | Materials, parts, containers, and supplies | (X) | 6 218.7 | (X) | 4 982.1 |
| 333102 | Copper cathodes | 341.2 | 256.6 | 175.4 | 155.1 |
| 333125 | Copper and copper-base alloy wire bar | 36.9 | 32.1 | 44.6 | 35.4 |
| | Nonferrous metal mill shapes and forms (except castings and forgings): | | | | |
| | Rods: | | | | |
| 335009 | Aluminum and aluminum-base alloys | 530.9 | 351.9 | 424.9 | 306.0 |
| 335133 | Copper, unalloyed | 2 047.3 | 1 698.0 | *1 320.5 | 1 019.1 |
| 335135 | Copper-base alloys | *121.5 | 97.7 | *128.0 | 116.1 |

See footnotes at end of table.

Table 3. **Materials Consumed by Kind: 1987 and 1982—Con.**

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

| 1987 material code | Material | 1987 | | 1982 | |
|--------------------------|---|-----------------------|--|-----------------------|--|
| | | Quantity ¹ | Delivered cost (million dollars) | Quantity ¹ | Delivered cost (million dollars) |
| | INDUSTRY 3357, NONFERROUS WIREDRAWING AND INSULATING—Con. | | | | |
| | Nonferrous metal mill shapes and forms (except castings and forgings)—Con. | | | | |
| | Wire for redrawing: | | | | |
| 335511 | Aluminum and aluminum-base alloys -----mil lb.. | 15.5 | 20.3 | 105.2 | 110.4 |
| 335112 | Copper and copper-base alloys -----do.. | 161.2 | 151.8 | *369.6 | 260.4 |
| 335608 | Other -----do.. | 21.1 | 26.8 | 20.6 | 17.7 |
| | Bare wire (except wire for redrawing): | | | | |
| 335725 | Copper and copper-base alloys (electrical) -----mil lb.. | 750.2 | 285.1 | 494.2 | 448.5 |
| 335718 | Aluminum and aluminum-base alloys -----do.. | **72.5 | 58.4 | 93.3 | 74.4 |
| | All other mill shapes and forms: | | | | |
| 335109 | Copper and copper-base alloys (including mechanical wire) -----mil lb.. | (S) | 16.8 | **40.5 | 49.8 |
| 335007 | Aluminum and aluminum-base alloys -----do.. | 42.3 | 42.2 | 58.7 | 69.8 |
| 335609 | Other -----do.. | 62.8 | 24.5 | **67.2 | 58.3 |
| 335794 | Insulated copper wire and cable for further processing (copper content) -----do.. | (S) | 17.2 | **64.9 | 65.1 |
| 333121 | Refined unalloyed copper (except wire bar, cathodes, ingot, cakes, slabs, etc.) -----1,000 s tons.. | (D) | 5.4 | 30.7 | |
| 333976 | Refined unalloyed tin -----do.. | *1.5 | 6.6 | | |
| 333113 | Copper-base alloy raw materials (ingot, billets, shot, waffle, and hardeners) -----do.. | (D) | (D) | (S) | 24.7 |
| 190024 | Copper and copper-base alloy scrap -----do.. | (D) | (D) | 27.0 | 17.0 |
| 083111 | Natural rubber -----mil lb.. | (D) | (D) | (S) | 18.2 |
| 282202 | Synthetic rubber -----do.. | *65.0 | 93.0 | *71.8 | 67.5 |
| 308981 | Fiberglass insulating materials -----do.. | (S) | 6.5 | (NA) | (NA) |
| 282104 | Plastics resins consumed in the form of granules, pellets, powder, liquid, etc., except sheets, rods, tubes, and shapes -----do.. | *1 155.2 | 728.3 | *1 097.6 | 822.8 |
| 308007 | Plastics products consumed in the form of sheets, rods, tubes, and other shapes -----do.. | (X) | 25.7 | (X) | (NA) |
| 228102 | Cotton yarns -----do.. | 4.5 | 13.0 | *2.4 | 7.3 |
| 970099 | All other materials and components, parts, containers, and supplies -----do.. | (X) | 1 228.5 | (X) | 1 177.6 |
| 971000 | Materials, parts, containers, and supplies, n.s.k. ² -----do.. | (X) | 920.6 | (X) | 232.2 |
| | INDUSTRY 3398, METAL HEAT TREATING | | | | |
| | (Materials data were not collected for this industry.) | | | | |
| | INDUSTRY 3399, PRIMARY METAL PRODUCTS, N.E.C. | | | | |
| | (Materials data were not collected for this industry.) | | | | |

¹For some establishments, data have been estimated from central unit values which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

²Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

³For 1982, material codes 333126, 333127, 333128, and 333129 were included with material code 190024.

⁴For 1982, material codes 333123 and 333128 were combined with material code 333129 to avoid disclosing data for individual companies.

⁵For 1987 and 1982, material code 335301 is combined with material code 335008 to avoid disclosing data for individual companies.

⁶For 1982, material codes 333128, 333129, and 333348 were combined with material code 333987 to avoid disclosing data for individual companies.

⁷For 1982, material codes 190021, 190025, and 335100 were combined with material code 970099 to avoid disclosing data for individual companies.



APPENDIX

Scope and Coverage and Explanation of Terms

GENERAL

The 1987 Census of Manufactures is the 32nd census of manufacturing establishments conducted in the United States. For 1987, it was conducted as part of the economic censuses, which included the censuses of mineral industries, construction industries, retail and wholesale trades, service industries, selected transportation activities, and minority-owned and women-owned businesses, under authority of title 13 of the United States Code. Title 13 specifies that an economic census be conducted every 5 years to cover years ending in 2 and 7.

SCOPE AND COVERAGE

Establishment Basis of Reporting

The census of manufactures is conducted on an establishment basis. All manufacturing establishments with one paid employee or more at any time during the year are covered by the census of manufactures. Therefore, a company operating at more than one location is required to file a separate report for each location. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units which service manufacturing establishments of the same company. Where these auxiliary operations are conducted at the same location as the manufacturing operation, they are usually included in the report for the operating manufacturing establishment.

Use of Administrative Records

From a universe of approximately 350,000 manufacturing establishments in the 1987 Census of Manufactures, approximately 150,000 small single-establishment companies were excused from filing reports. Selection of the small establishment nonmail cases was done on an industry-by-industry basis. A variable cutoff was used to determine those establishments for which administrative records were to be used in place of a census report. The cutoffs were selected so the administrative-record cases would account for approximately 3 percent or less of the value of shipments for the industry. These cutoffs were then adjusted so that all single-establishment companies with less than 5 employees were excluded from the mail canvass, while all establishments with more than 20 employees were included. Where establishments in the 5 to 20 employee size range were included in the mail canvass, an abbreviated census form was frequently used.

For these nonmail establishments, (and a small number of larger establishment whose reports were not received at the time the data were tabulated) data on employment, payroll, and receipts were obtained from administrative records of other government agencies rather than from census forms. The administrative-record information was then used in conjunction with industry averages to estimate the data for these establishments. The value of shipments and cost of materials were not distributed among specific products and materials but were included in the product and material "not specified by kind" (n.s.k.) categories.

EXPLANATION OF TERMS

Number of establishments and companies—A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

All employees—Includes all full-time and part-time employees on the payrolls at any time during the year. Included are all persons on paid sick leave, paid holidays, and paid vacations. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November.

Production workers—Includes workers up through the working-supervisor level engaged in fabricating, processing, assembling, inspecting, receiving, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial, guard services, product development, auxiliary production for plant's own use (e.g., power-plant), recordkeeping, and other closely associated services. Truckdrivers delivering ready-mixed concrete are also included in production workers.

Other employees—Includes nonproduction personnel, including those engaged in the following activities: supervision above working-supervisor level, sales (including driver/salespersons), sales delivery (truckdrivers and helpers), advertising, credit collection, installation and

servicing of own product, clerical and routine office functions, executive, purchasing, finance, legal, personnel (including cafeteria, etc.), professional, and technical employees.

Payroll—Includes the gross earnings for the “employees” defined above, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees’ Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Respondents were told that in reporting they could follow the definition of payrolls used for calculating the Federal withholding tax.

Production-worker hours—Covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the plant.

Cost of materials—Refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuels consumed, regardless of whether they were purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (a) all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year; (b) electric energy purchased; (c) fuels consumed for heat, power, or generating electricity; (d) work done by others on materials or parts furnished by manufacturing establishments (contract work); and (e) products bought and resold in the same condition.

Specific materials consumed (table 3)—In addition to the total cost of materials which every establishment was required to report, information was also collected for most manufacturing industries on the consumption of major materials used in manufacturing. These inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers’ records. Establishments consuming less than a specified amount (usually \$10,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which administrative records were used was estimated as “not specified by kind” (n.s.k.).

Value of shipments and other receipts—Generally refers to received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all

miscellaneous receipts such as receipts for contract work performed for others, installation and repair receipts, sale of scrap, and sale of products bought and resold without further processing. Included are all items made by or for the establishment from materials owned by it whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In a few industries, the value of production or value of work completed is used instead of value of shipments. These industries are identified in the introduction and are footnoted in table 1.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, that is, including not only the direct costs of production but also a reasonable proportion of “all other costs” (including company overhead and profit).

Shipments or production of individual products (table 2)—In the 1987 census, detailed shipment information was collected for approximately 11,000 individual products. These products are identified by a seven-digit code and are grouped into approximately 1,500 classes of products, which in turn are primary to 459 four-digit industries. Data at the five-digit product-class level have been collected each year as part of the annual survey of manufactures. Information at the seven-digit level, collected for many industries in the current industrial reports program, is not included in this table.

Value added by manufacture—This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments for products manufactured plus receipts for services rendered. The result of this calculation is then adjusted by the addition of value added by merchandising operations (that is, the difference between the sales value and cost of merchandise sold without further manufacturing, processing, or assembly) plus the net change in finished goods and work-in-process inventories between the beginning and end of the year.

For those industries where value of production is collected instead of value of shipments (see footnote in table 1), value added is adjusted only for the change in work-in-process inventories between the beginning and end of the year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

Value added avoids the duplication in the figure for value of shipments which results from the use of products of some establishments as materials by others. Value

added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

Expenditures for new plant and equipment—Establishments in operation and any known plants under construction were asked to report their expenditures for (a) permanent additions and major alterations to manufacturing establishments and (b) new machinery and equipment used for replacement and additions to plant capacity if they are of the type for which depreciation accounts are ordinarily maintained.

These totals exclude expenditures for used plant and equipment, expenditures for land, and cost of maintenance and repairs charged as current operating expenses. Data for used plant and equipment will be published in the final industry bulletin.

End-of-year inventories—Comprised of (a) finished products; (b) work-in-process; and (c) materials, supplies, fuels, etc. Beginning in 1982, respondents were asked to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior years in which respondents were permitted to value their inventories using any generally accepted accounting method.

Therefore, 1982 through 1987 data for inventories are not strictly comparable to prior-year data.

Specialization and coverage ratios—An establishment is classified in a particular industry if its shipments of primary products of the industry exceed in value its shipments of the products of any other single industry. An establishments' shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). The following ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in table 1 and data on product shipments shown in table 2.

Specialization ratio—Represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio—Represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments, wherever classified.

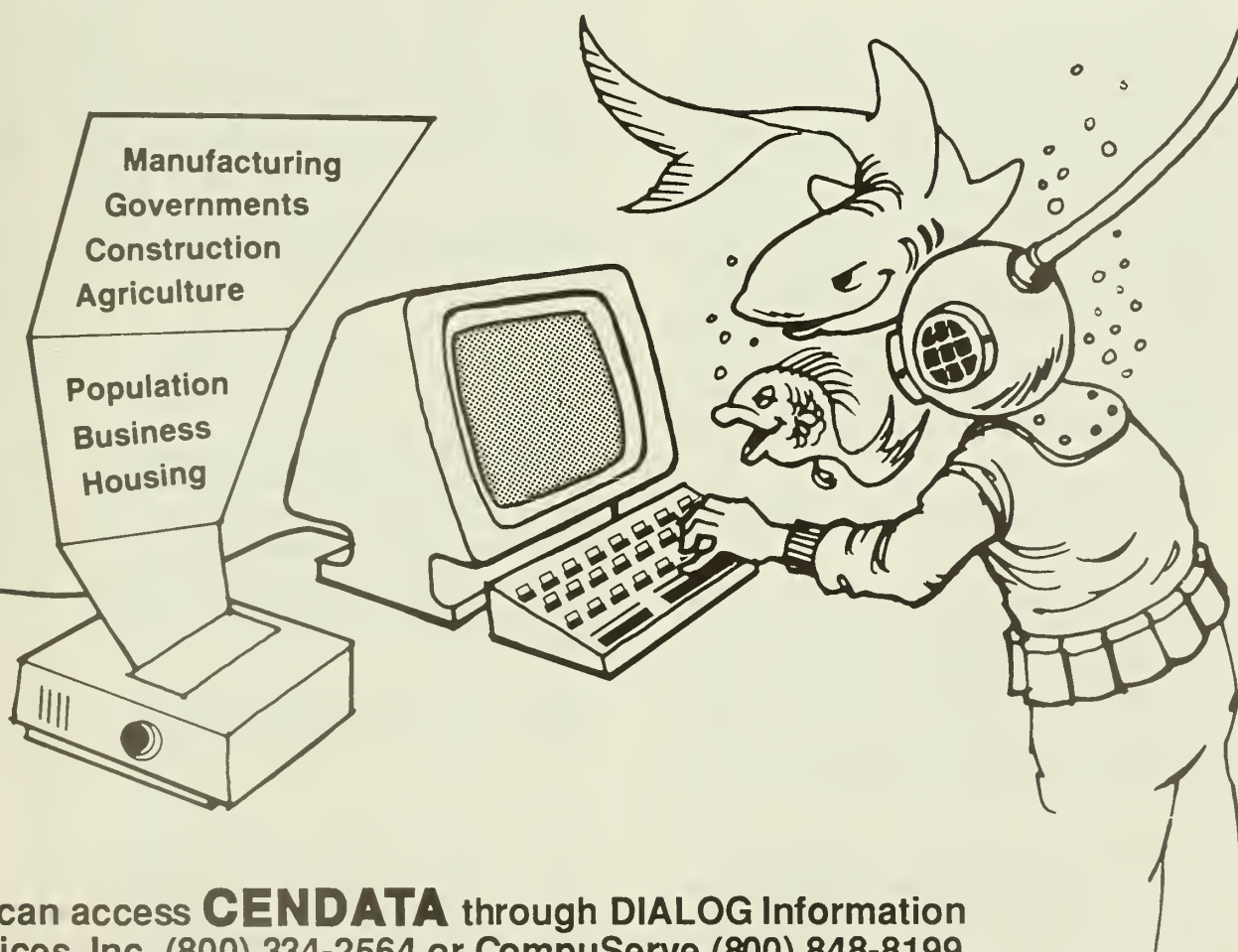


WHAT'S YOUR LINE?

It's ONLINE!

NOW whatever you do, wherever you go, we've got data for you.
In more depth than ever—

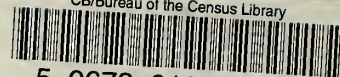
CENDATA™—the Census Bureau's online system—instantly provides the facts you need for decisions in virtually every area. It covers everything from ingots to elections, from rental vacancies to retail sales, from median family income to milk cows in Minnesota.



You can access **CENDATA** through DIALOG Information Services, Inc. (800) 334-2564 or CompuServe (800) 848-8199. Or call the Census Bureau on (301) 763-2074 for more information.

Now key statistics are just a phone call away.

CB/Bureau of the Census Library



5 0673 01031344 6